PERMIT: 2021-L-491-00011

COUNTY: BROWARD

STATE RD: 811

# AMENDMENT NUMBER TWO (2) FLORIDA DEPARTMENT OF TRANSPORTATION LANDSCAPE MAINTENANCE MEMORANDUM OF AGREEMENT

THIS AMENDMENT Number TWO (2) to the Agreement dated June 16, 2005, made and
entered into this day of20, by and between the Department of
Transportation, hereinafter called the DEPARTMENT and the CITY OF FORT LAUDERDALE, a
municipal subdivision of the State of Florida, hereinafter called the AGENCY.
WITNESSETH:
WHEREAS, the DEPARTMENT has jurisdiction over State Road 811 (NE 4 <sup>th</sup> Avenue) as part of the State Highway System as described in Exhibit "A"; and
WHEREAS, the DEPARTMENT and the AGENCY signed an agreement on June 16, 2005 for the DEPARTMENT to install landscaping and irrigation in the median along State Road 811 from M.P. 0.009 to M.P. 0.975, herein after referred to as "the Original Agreement"; and
<b>WHEREAS</b> , the parties amended the Agreement with Amendment One (1), dated December 1, 2021, for the purpose of expanding the AGENCY'S maintenance of the landscape improvements on State Road 811 (Dixie Highway / NE 4 <sup>th</sup> Avenue) from <b>M.P. 0.057</b> to <b>M.P. 0.124</b> ; and
<b>WHEREAS</b> , pursuant to this Amendment, the AGENCY seeks to have installed by permit, and herein agrees to maintain, certain landscape improvements within the right of way of State Road 811 (Dixie Highway / NE 4 <sup>th</sup> Avenue) from <b>M.P. 0.000 to M.P. 0.406</b> , as described within <b>Exhibit "B"</b> and
<b>WHEREAS</b> , it is the intent of the AGENCY and the DEPARTMENT that the AGENCY shall maintain all right of way within the medians, outside the travelway and the additional improvements made to the travelway that were made at the AGENCY'S request, in accordance with the Maintenance Plan incorporated herein as <b>Exhibit "C"</b> ; and
<b>WHEREAS</b> , the parties hereto mutually recognize the need for entering into this Amendment designating and setting forth the responsibilities of each party; and
<b>WHEREAS,</b> the AGENCY, by Resolution No, dated, 20, attached hereto as <b>Exhibit "D"</b> and by this reference made a part hereof, desires to enter into this Agreement and authorizes its officers to do so.
<b>NOW THEREFORE,</b> for and in consideration of the mutual benefits to flow each to the other, the parties covenant and agree as follows:

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1. The recitals set forth above are true and correct and are deemed incorporated herein.

#### 2. INSTALLATION OF FACILITIES

The AGENCY shall install and agrees to maintain the landscape improvements described herein as: plant materials, irrigation and/or hardscape on the highway facilities substantially as specified in plans and specifications hereinafter referred to as the Project(s) and incorporated herein as **Exhibit "B"**. *Hardscape* shall mean, but not be limited to, any site amenities such as landscape accent lighting, bike racks, fountains, tree grates, decorative free-standing walls, and/or sidewalk, median and/or roadway specialty surfacing such as concrete pavers, stamped colored concrete and/or stamped colored asphalt (also known as patterned pavement).

- a. All plant materials shall be installed and maintained in strict accordance with sound nursery practice prescribed by the International Society of Arboriculture (ISA). All plant materials installed shall be Florida #1 or better according to the most current edition of Florida Department of Agriculture, Florida Grades and Standards for Nursery Stock; and all trees shall meet Florida Power & Light, Right Tree, Right Place, South Florida.
- b. Trees and palms within the right of way shall be installed and pruned to prevent encroachment to roadways, lateral offsets, and sidewalks. Definition of these criteria is included in the most current editions of FDOT standards for design, construction, maintenance, and utility operations on the state highway system and **Exhibit "C"**, the Maintenance Plan.
- c. Tree and palm pruning shall be supervised by properly trained personnel trained in tree pruning techniques and shall meet the most current standards set forth by the International Society of Arboriculture (ISA) and the American National Standard Institute (ANSI), Part A-300.
- d. Irrigation installation and maintenance activities shall conform to the standards set forth by the Florida Irrigation Society (FIS) latest edition of FIS, Standards and Specifications for Turf and Landscape Irrigation Systems.
- e. The AGENCY shall provide the FDOT Local Operation Center accurate as-built plans of the irrigation system so if in the future there is a need for the DEPARTMENT to perform work in the area, the system can be accommodated as much as possible. (See paragraph (g) for contact information.)
- f. If it becomes necessary to provide utilities (water/electricity) to the median or side areas, it shall be the AGENCY'S responsibility to obtain a permit for such work through the local Operations Center (see paragraph (g) below) and the AGENCY shall be responsible for all associated fees for the installation and maintenance of these utilities.
- g. The AGENCY shall provide the local FDOT Operation Center located at Broward Operations, 5548 NW 9<sup>th</sup> Avenue, Ft. Lauderdale, FL 33309 (954) 776-4300) a twenty-four (24) hour telephone number and the name of a responsible person that the DEPARTMENT may contact. The AGENCY shall notify the local maintenance office forty-eight (48) hours prior to the start of the landscape improvements.

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h. All specialty surfacing shall be installed and maintained in strict accordance with the most current edition of the *Florida Accessibility Code for Building Construction* and the *Interlocking Concrete Pavement institute (ICPI)*.

- i. All activities, including landscape improvements installation and future maintenance operations performed on State highway right of way, must be in conformity with the most current edition of the *Manual on Uniform Traffic Control* (MUTCD) and *FDOT Standard Plans for Road Construction*, 102-XXX series, Maintenance of Traffic.
- j. The most current edition of FDOT Design Manual, Section 212.11 and Exhibits 212.4 through 212.7 regarding clear sight triangles at intersections must be adhered to.
- k. Clear Zone Lateral Offset and as specified in the *FDOT Design Manual*, Chapter 215 must be adhered to.
- Landscape improvements shall not obstruct roadside signs or permitted outdoor signs, (see Florida Administrative Code [F.A.C.] Rule Chapter 14-10.)
- m. If there is a need to restrict the normal flow of traffic, it shall be done on non-holiday, weekday, off-peak hours (9 AM to 3 PM), and the party performing such work shall give notice to the local law enforcement agency within whose jurisdiction such road is located prior to commencing work on the landscape improvements. The DEPARTMENT'S Public Information Officer (see telephone number in paragraph (g) for Operation Center) shall also be notified.
- n. The AGENCY shall be responsible for ensuring no impacts to utilities will occur within the landscape improvement limits before construction commences.
- o. The AGENCY shall follow the minimum level of maintenance guidelines as set forth in FDOT'S Rule Chapter 14-40 *Highway Beautification and Landscape Management*, in the FDOT *Guide to Roadside Mowing and Maintenance Management System,* and **Exhibit "C"**, the *Maintenance Plan* for maintenance activities for landscape improvements.

# 3. MAINTENANCE OF FACILITIES

A. The AGENCY agrees to maintain the landscape improvements, as existing and those to be installed, within the physical limits described in **Exhibit** "A" and as further described in **Exhibit** "B". The non-standard improvements within and outside the traveled way shall be maintained by the AGENCY regardless if the said improvement was made by the DEPARTMENT, the AGENCY, or others authorized pursuant to Section 7, by periodic mowing, pruning, fertilizing, weeding, curb and sidewalk edging, litter pickup, necessary replanting, irrigation system repair and/ or repair of any median concrete replacement associated with specialty surfacing (if applicable) following the DEPARTMENT'S landscape safety and maintenance guidelines, **Exhibit** "C", the Maintenance Plan. The AGENCY'S responsibility for maintenance shall include all landscaped, turfed and hardscape areas on the sidewalk or within the medians and areas outside the traveled way to the right of way and/or areas within the traveled way containing specialty surfacing. The AGENCY shall be responsible for all maintenance and repairs to FDOT sidewalks directly attributable to tree roots or other AGENCY maintained improvements. It shall be the

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responsibility of the AGENCY to restore an unacceptable ride condition of the roadway caused by the differential characteristics of non-standard traveled way surfacing (if applicable) on DEPARTMENT right of way within the limits of this Agreement.

- B. Such maintenance to be provided by the AGENCY is specifically set out as follows: to maintain, which means to properly water and fertilize all plant materials; to keep them as free as practicable from disease and harmful insects; to properly mulch the planting beds; to keep the premises free of weeds; to mow the turf to the proper height; to properly prune all plants which at a minimum includes: (1) removing dead or diseased parts of plants, (2) pruning such parts thereof to provide clear visibility to signage, permitted outdoor advertising signs per Florida Statute 479.106 and for those using the roadway and/or sidewalk; (3) preventing any other potential roadway hazards. Plant materials shall be those items which would be scientifically classified as plants and including trees, palms, shrubs, groundcover and turf. To maintain also means to remove or replace dead or diseased plant materials in their entirety, or to remove or replace those that fall below original project standards. Palms shall be kept fruit free year-round. To maintain also means to keep the header curbs that contain the specialty surfacing treatment in optimum condition. To maintain also means to keep the nonstandard hardscape areas clean, free from weeds and to repair said hardscape as is necessary to prevent a safety hazard. To maintain also means to keep litter removed from the median and areas outside the travel way to the right of way line. All plants removed for whatever reason shall be replaced by plants of the same species type, size, and grade as specified in the original plans and specifications. Any changes to the original plans shall be submitted by permit application to the DEPARTMENT for review and approval.
- C. If it becomes necessary to provide utilities (water/electricity) to the medians or areas outside the traveled way to maintain these improvements, all costs associated with such utilities, are the maintaining AGENCY'S responsibility.

The AGENCY shall be directly responsible for:

- a. Impact and connection fees;
- b. The on-going cost of utility usage for water and electricity.
- D. The maintenance functions to be performed by the AGENCY may be subject to periodic inspections by the DEPARTMENT at the discretion of the DEPARTMENT. Such inspection findings will be shared with the AGENCY and shall be the basis of all decisions regarding repayment, reworking or agreement termination. The AGENCY shall not change or deviate from said plans without written approval of the DEPARTMENT.
- 4. DEPARTMENT ACCESS TO FACILITIES

The DEPARTMENT will periodically need access to various features within the limits of this Agreement. Upon request of the DEPARTMENT, the AGENCY will have 14 calendar days to provide access to the items noted by the DEPARTMENT. This may require temporary or permanent removal of improvements such as hardscape, landscape or other items conflicting with the items to which the Department needs access.

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Should the AGENCY fail to remove or relocate items as requested, the Department may:

a. Remove conflicting improvements or any portion thereof.

- b. Restore the area with any material meeting Department standards.
- c. Restore the improvements at the request and funding of the AGENCY.

#### 5. NOTICE OF MAINTENANCE DEFICIENCIES

If at any time after the AGENCY has undertaken the landscape improvements installation and/or maintenance responsibility for the landscape improvements it shall come to the attention of the DEPARTMENT'S District Secretary that the limits, or a part thereof, are not properly maintained pursuant to the terms of this Agreement, said District Secretary, may at his/her option, issue a written notice that a deficiency or deficiencies exist(s), by sending a certified letter to the AGENCY, to place said AGENCY on notice thereof. Thereafter, the AGENCY shall have a period of thirty (30) calendar days in which to correct the cited deficiencies. If said deficiencies are not corrected within this time-period, the DEPARTMENT may, at its option, proceed as follows:

- a. Maintain the landscape improvements or any part thereof, with the DEPARTMENT or Contractor's personnel and invoice the AGENCY for expenses incurred; and/or
- b. At the discretion of the DEPARTMENT, terminate the Agreement in accordance with Paragraph 9 of this Agreement and remove, by the DEPARTMENT or Contractor's personnel, all of the landscape improvements installed under this Agreement or any preceding Agreements, except as to trees and palms, and charge the AGENCY the reasonable cost of such removal.

## 6. FUTURE DEPARTMENT IMPROVEMENTS

It is understood between the parties hereto that the landscape improvements covered by this Agreement may be removed, relocated, or adjusted at any time in the future, as determined to be necessary by the DEPARTMENT, in order that the adjacent state road be widened, altered, or otherwise changed to meet future criteria or planning needs of the DEPARTMENT.

The AGENCY shall be given sixty (60) calendar days' notice to remove said landscape improvements at the AGENCY'S expense after which time the DEPARTMENT may remove same. All permits (including tree permits), fees, and any mitigation associated with the removal, relocation or adjustments of these improvements are the AGENCY'S responsibility.

#### 7. FUTURE AGENCY IMPROVEMENTS

The AGENCY may construct additional landscape improvements within the limits of this Agreement, identified in **Exhibit "A"**, subject to the following conditions:

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a. Plans for any new landscape improvements shall be subject to approval by the DEPARTMENT. The AGENCY shall not change or deviate from said plans without written approval by the DEPARTMENT.

All landscape improvements shall be developed and implemented in accordance with appropriate state safety and roadway design standards.

The AGENCY agrees to comply with the requirements of this Agreement with regard to any additional landscape improvements it chooses to have installed and there will be no cost to the DEPARTMENT.

#### 8. ADJACENT PROPERTY OWNER IMPROVEMENTS

The DEPARTMENT may allow an adjacent property owner to construct additional landscape improvements within the limits of the right of way identified in **Exhibit "A"** that the AGENCY shall be responsible for maintaining under this Agreement, subject to the following conditions:

Plans for any new landscape improvements shall be subject to approval by the DEPARTMENT and shall require a valid permit attached with a letter of consent to said plans by the AGENCY. The plans shall not be changed or deviated from without written approval by the DEPARTMENT and the AGENCY.

All landscape improvements shall be developed and implemented in accordance with appropriate state safety and roadway design standards.

The AGENCY agrees to comply with the requirements of this Agreement with regard to any additional landscape improvements installed by an adjacent owner.

# 9. AGREEMENT TERMINATION

In addition to those conditions otherwise contained herein, this Agreement may be terminated under any one (1) of the following conditions:

- a. By the DEPARTMENT, if the AGENCY fails to perform its duties under this Agreement, following ten (10) days written notice.
- b. By the DEPARTMENT, for refusal by the AGENCY to allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the AGENCY in conjunction with this Agreement.

# 10. AGREEMENT TERM

The term of this Agreement commences upon execution by all parties and shall remain in effect as long as the improvements shall exist, or until this Agreement is terminated by either party in accordance with Paragraph 9.

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#### 11. LIABILITY AND INSURANCE REQUIREMENTS

A. With respect to any of the AGENCY'S agents, consultants, sub-consultants, contractors and/or sub-contractors, such party in any contract for the landscape improvements shall agree to indemnify, defend, save and hold harmless the DEPARTMENT from all claims, demands, liabilities, and suits of any nature arising out of, because of or due to any intentional and/or negligent act or occurrence, omission or commission of such agents, consultants, subconsultants, contractors and/or subcontractors. The AGENCY shall provide the DEPARTMENT with written evidence of the foregoing upon the request of the DEPARTMENT. It is specifically understood and agreed that this indemnification clause does not cover or indemnify the DEPARTMENT for its own negligence.

- B. In the event that AGENCY contracts with a third party to provide the services set forth herein, any contract with such third party shall include the following provisions:
  - 1. The AGENCY'S contractor shall at all times during the term of this Agreement keep and maintain in full force and effect, at contractor's sole cost and expense, Comprehensive General Liability with minimum limits of \$1,000,000.00 per occurrence combined single limit for Bodily Injury Liability and Property Damage Liability and Worker's Compensation insurance with minimum limits of \$500,000.00 per Liability. Coverage must be afforded on a form no more restrictive than the latest edition of the Comprehensive General Liability and Worker's Compensation policy without restrictive endorsements, as filed by the Insurance Services Office. The AGENCY and DEPARTMENT shall be named as additional insured on such policies.
  - 2. AGENCY'S contractor shall furnish AGENCY with Certificates of Insurance of Endorsements evidencing the insurance coverage specified herein prior to the beginning performance of work under this Agreement.
  - 3. Coverage is not to cease and is to remain in full force and effect (subject to cancellation notice) until all performance required of AGENCY'S contractor is completed. All policies must be endorsed to provide the DEPARTMENT with at least thirty (30) day notice of cancellation and/or restriction. If any of the insurance coverage will expire prior to the completion of work, copies of renewal policies shall be furnished at least (30) days prior to the date of expiration.

# 12. E-VERIFY REQUIREMENTS

# The AGENCY shall:

- a) Utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the AGENCY during the term of the contract; and
- b) Expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland

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Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

# 13. SUPERSEDED AGREEMENTS

This writing embodies the entire Agreement and understanding between the parties hereto and there are no other Agreements and understanding, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby.

## 14. FISCAL TERMS

The DEPARTMENT, during any fiscal year, shall not expend money, incur any liability, or enter into any contract which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any contract, verbal or written, made in violation of this subsection is null and void, and no money will/may be paid on such contract. The DEPARTMENT shall require a statement from the Comptroller of the DEPARTMENT that funds are available prior to entering into any such contract or other binding commitment of funds. Nothing herein contained shall prevent the making of contracts for periods exceeding one (1) year, but any contract so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years; and this paragraph shall be incorporated verbatim in all contracts of the DEPARTMENT which are for an amount in excess of TWENTY-FIVE THOUSAND DOLLARS (\$25,000.00) and which have a term for a period of more than one year.

### 15. DISPUTES

The DEPARTMENT'S District Secretary shall decide all questions, difficulties, and disputes of any nature whatsoever that may arise under or by reason of this Agreement, the prosecution or fulfillment of the service hereunder and the character, quality, amount, and value thereof; and his decision upon all claims, questions, and disputes shall be final and conclusive upon the parties hereto.

### 16. ASSIGNMENT

This Agreement may not be assigned or transferred by the AGENCY, in whole or in part, without the prior written consent of the DEPARTMENT.

#### 17. LAWS GOVERNING

This Agreement shall be governed by and construed in accordance with the laws of the State of Florida. In the event of a conflict between any portion of the contract and Florida law, the laws of Florida shall prevail. The AGENCY agrees to waive forum and jurisdictional venue. The DEPARTMENT shall determine the forum and venue in which any dispute under this Agreement is decided.

#### 18. NOTICES

Any and all notices given or required under this Agreement shall be in writing and either personally

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delivered with receipt acknowledgement or sent by certified mail, return receipt requested. All notices shall be sent to the following addresses:

# If to the DEPARTMENT:

Florida Dept. of Transportation 3400 West Commercial Blvd. Ft. Lauderdale, FL 33309-3421 Attn: Kaylee Kildare District IV Landscape Manager

# If to the AGENCY:

City of Fort Lauderdale 290 NE 3<sup>rd</sup> Avenue Fort Lauderdale, FL 33301 Attn: Mackendy Philippi Title: City Project Manager

# 19. LIST OF EXHIBITS

Exhibit A: Landscape Improvements Maintenance Boundaries

Exhibit B: Landscape Improvement Plans

Exhibit C: Maintenance Plan for Landscape Improvements

Exhibit D: Patterned Pavements

Exhibit E: Patterned Pavement Maintenance

Exhibit F: Resolution

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	In Witness whereof, the parties hereto	have executed with this Amendment effective
the_	day year written and approv	red.
CITY	OF FORT LAUDERDALE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
Ву:		Dv:
	Dean J. Trantalis, Mayor	By:
	day of, 2024	Date:
By:_ S	usan Grant, Acting City Manager	Attest:
	day of2024	Attest:Executive Secretary
Attes	st:	Legal Review:
	David R. Soloman, City Clerk	Office of the General Counsel Date
Appr	roved as to form by Office of the City Attorney	/
City	Attorney	

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# **EXHIBIT A**

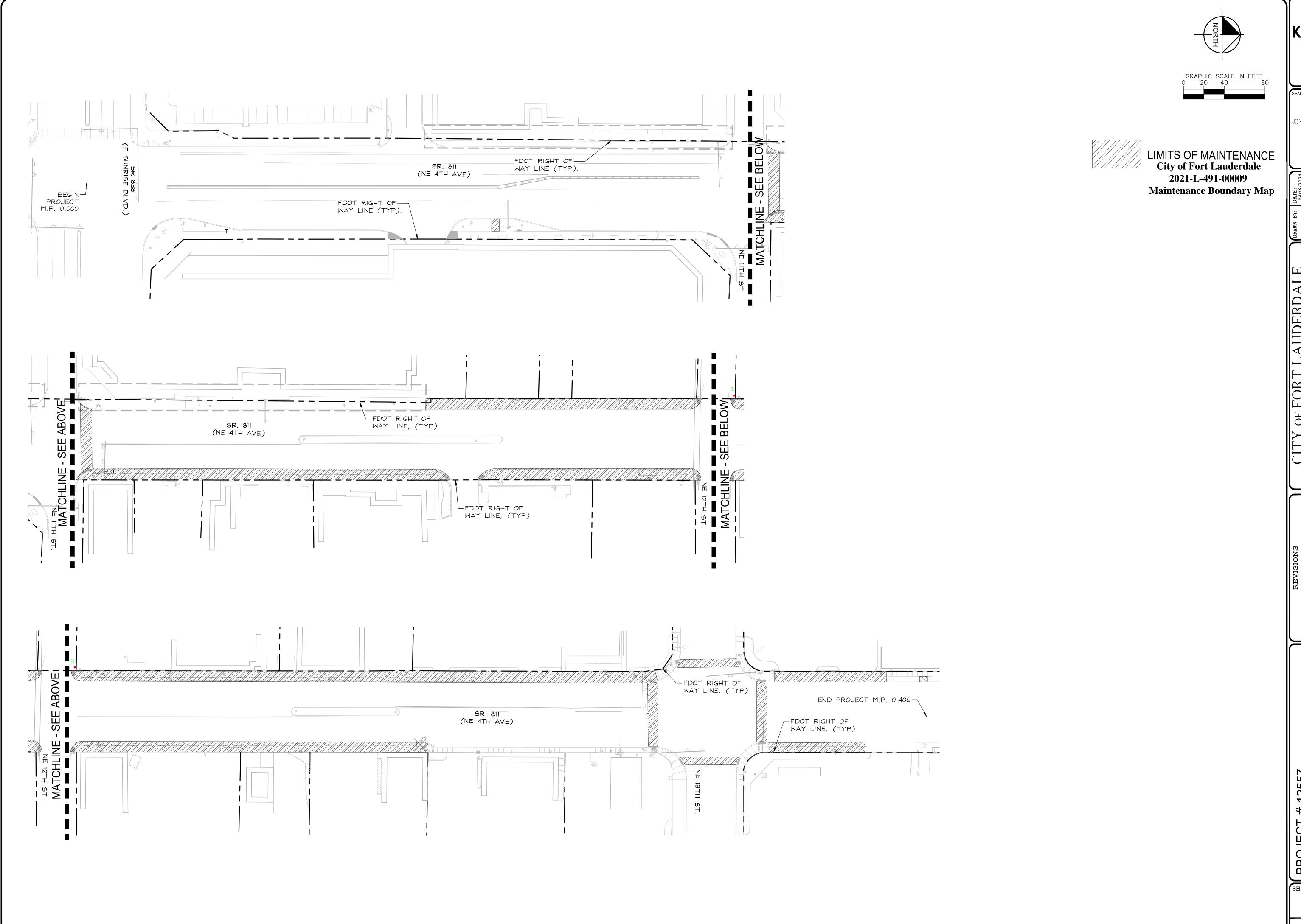
# LANDSCAPE IMPROVEMENTS MAINTENANCE BOUNDARIES

I. LIMITS OF MAINTENANCE FOR LANDSCAPE IMPROVEMENTS:

State Road 811 / Dixie Highway from East Sunrise Boulevard (M.P. 0.000) to N.E. 13<sup>th</sup> Street (M.P. 0.406)

II. LANDSCAPE IMPROVEMENTS MAINTENANCE BOUNDARIES:

See attached map



||Kimley»Horn 1920 WEKIVA WAY #200 WEST PALM BEACH, FL 33411 PHONE: 561-845-0665 FAX: 561-330-2245 WWW.KIMLEY-HORN.COM REGISTRY 696

JONATHAN D. HAIGH, PLA

STATE LICENSE NUMBER LA #6666795 10/28/2024

EX-1

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# **EXHIBIT B**

# LANDSCAPE IMPROVEMENT PLANS

The AGENCY agrees to install the landscape improvements in accordance with the plans and specifications attached hereto and incorporated herein.

Please see attached plans prepared by: Jonathan Haigh, PLA

Kimley Horn

Date: April 18, 2024

	Sheet List Table
Sheet Number	Sheet Title
C0.00	COVERSHEET
C0.01	SIGNATURE SHEET
C0.02	FDOT NOTES
C0.10	TYPICAL SECTIONS
L0.00	DEMOLITION PLAN
L0.01	DEMOLITION PLAN
L0.02	DEMOLITION PLAN
L0.03	DEMOLITION PLAN
L0.04	DEMOLITION PLAN
L0.05	DEMOLITION PLAN
L0.06	DEMOLITION PLAN
L0.07	DEMOLITION PLAN
L0.08	DEMOLITION PLAN
L1.00	TREE DISPOSITION PLAN
L1.01	TREE DISPOSITION PLAN
L1.02	TREE DISPOSITION PLAN
L1.03	TREE DISPOSITION PLAN
L1.04	TREE DISPOSITION PLAN
L1.05	TREE DISPOSITION PLAN
L1.06	TREE DISPOSITION PLAN
L1.07	TREE DISPOSITION PLAN
L1.08	TREE DISPOSITION PLAN
L2.00	HARDSCAPE PLAN
L2.01	HARDSCAPE PLAN
L2.02	HARDSCAPE PLAN
L2.03	HARDSCAPE PLAN
L2.04	HARDSCAPE PLAN
L2.05	HARDSCAPE PLAN
L2,06	HARDSCAPE PLAN
L2.07	HARDSCAPE PLAN
L2.08	HARDSCAPE PLAN
L2.09	POST MOUNT DISTRICT SIGN
L2.10	POST MOUNT DISTRICT SIGN
L2.11	FDOT POST MOUNT DETAIL
L2.12	HARDSCAPE DETAILS
L3.00	LANDSCAPE PLAN
L3,01	LANDSCAPE PLAN
L3.02	LANDSCAPE PLAN
L3.03	LANDSCAPE PLAN
L3.04	LANDSCAPE PLAN
L3.05	LANDSCAPE PLAN
L3.06	LANDSCAPE PLAN
L3.07	LANDSCAPE PLAN
L3.07	LANDSCAPE PLAN
L4.00	IRRIGATION PLAN
L4.00	IRRIGATION PLAN
L4.01	IRRIGATION PLAN
L4.02	IRRIGATION PLAN
L4.03	IRRIGATION PLAN
L4.04	IRRIGATION PLAN
L4.05	IRRIGATION PLAN
L4.06	IRRIGATION PLAN
L4.08	IRRIGATION PLAN IRRIGATION DETAILS
L4.10	
L4.11	IRRIGATION NOTES
L4.12	IRRIGATION NOTES
C6.00	LIGHTING GENERAL NOTES
C6.01	LIGHTING PLAN
C6.02	LIGHTING PLAN
C6.03	LIGHTING PLAN
C6.04	LIGHTING PLAN
C6.05	LIGHTING PLAN
	LIGHTING PLAN
C6.06	
C6.06 C6.07	LIGHTING PLAN
C6.06	



# CITY OF FORT LAUDERDALE

# PROJECT #12557 NE 4TH AVE STREETSCAPE PROJECT

# NE 4TH AVE FROM E SUNRISE BLVD TO NE 13TH ST FORT LAUDERDALE, FLORIDA

BEGIN PROJECT MP. 0.000 END PROJECT MP. 0.406

DESIGN SPEED: 40 MPH POSTED SPEED: 30 MPH

CURRENT EDITIONS OF APPLICABLE STANDARDS AND MANUALS USED:

2016 MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (FLORIDA GREENBOOK)

CITY OF FORT LAUDERDALE STANDARDS

REFERENCE STANDARDS: 2021 FDOT DESIGN MANUAL 2021-22 FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION

2021 FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

PERMIT NUMBER: 2021-L-491-00011 SECTION NUMBER: 86170 STATE ROAD: SR-811

PLANS REFERENCE 2022 FDOT DESIGN MANUAL, FY 2021-22 STANDARD PLANS

REFER TO APPROVED DESIGN VARIANCE MEMORANDUM (PERMIT #2021-L-491-00011) FOR THE PROPOSED AND EXISTING ROADSIDE TREES (EXPECTED DIAMETER GREATER THAN 4" AT 6" ABOVE GROUND LEVELY WITHIN THE 4" LATERAL OFFSET FROM FACE OF CURB PER FOM CHAPTER 215, THE CONVENTION LIGHT POLES WITHIN THE 4" LATERAL OFFSET FROM FACE OF CURB PER FOM CHAPTER 215, AND THE EXISTING TREES WITHIN THE LIMITS OF CLEAR SIGHT (LOCS) PER FDM CHAPTER 215.

DESIGN SPEED:



# PROJECT #12557 NE 4TH AVE STREETSCAPE PROJECT

NE 4TH AVE FROM E SUNRISE BLVD TO NE 13TH ST



# CITY OF FORT LAUDERDALE

TRANSPORTATION & **MOBILITY** 

290 NE 3RD AVE, FORT LAUDERDALE, FL 33301

# FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS HEATHER MORAITIS STEVEN GLASSMAN ROBERT McKINZIE

MAYOR

COMMISSIONER - DISTRICT I COMMISSIONER - DISTRICT II COMMISSIONER - DISTRICT III BEN SORENSEN COMMISSIONER - DISTRICT IV

JONATHAN D. HAIGH, P.L.A

KIMLEY HORN CITY PROJECT MANAGER (561)845-0665 (954)828-4697

CAD FILE: XXXXX-XXX-XXX0000

FDOT LANDSCAPE PERMIT No.: 2021-L-491-00011

CAM 24-1145 Exhibit 1

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- 2. PATTERNED PAVEMENT INSTALLATION SHALL COMPLY WITH CURRENT FDOT STANDARD SPECIFICATION 523 ONLINE REFERENCE: HTTPS://FDOTWWW.BLOB.CORE.WINDOWS.NET/SITEFINITY/DOCS/DEFAULT-SOURCE/PROGRAMMANAGEMENT/ IMPLEMENTED/SPECBOOKS/JANUARY2021/1-21EBOOK.PDF?SFVRSN=1C62CB58\_2
- 3. CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE DONE TO FDOT PROPERTY DURING DEMOLITION, RELOCATION AND/OR INSTALLATION ACTIVITIES AT HIS SOLE EXPENSE.
- 4. OWNERSHIP OF ALL SUITABLE EXCAVATED MATERIALS, AS DETERMINED BY THE DEPARTMENT, SHALL REMAIN IN THE DEPARTMENT UNTIL A FINAL ACCEPTANCE OF THE PERMITTED PROJECT IS FULFILLED. EXCAVATED MATERIALS SHALL BE HAULED BY THE PERMITTEE, AT THEIR COST AND EXPENSE FROM THE SITE TO THE BROWARD OPERATIONS CENTER OR STOCKPILED IN THOSE AREAS AS DIRECTED BY THE DEPARTMENT, INCLUDING ASPHALT MILLINGS.
- 5. PERMITTEE WILL RESTORE THE RIGHT OF WAY AS A MINIMUM, TO ITS ORIGINAL CONDITION OR BETTER IN ACCORDANCE WITH FDOT LATEST STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION OR AS DIRECTED BY THE RESIDENT OPERATIONS ENGINEER
- 6. RESTRICTED HOURS OF OPERATION FOR LANE CLOSURES WILL BE FROM 9:00 AM TO 3:30 PM, (MONDAY-FRIDAY), UNLESS OTHERWISE APPROVED BY THE OPERATIONS ENGINEER, OR DESIGNEE.
- 7. PERMITTEE WILL COORDINATE (I.E. PRE-CONSTRUCTION MEETINGS, INSPECTIONS, FINAL ACCEPTANCE OF WORK, ETC.) WITH FDOT BROWARD OPERATIONS CENTER PERMITTING DEPARTMENT COORDINATION WILL INCLUDE PRE-CONSTRUCTION. CERTIFICATION ACCEPTANCE AND FINAL APPROVAL IS CONTINGENT UPON CONFORMITY OF ALL WORK COMPLETED ACCORDING TO THIS PERMIT AND THE RESTORATION OF THE RIGHT OF WAY.
- 8. ALL MATERIALS AND CONSTRUCTION WITHIN THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN (FDOT) RIGHT-OF-WAY SHALL CONFORM TO THE "LATEST VERSION OF FDOT STANDARD PLANS FOR ROADS AND BRIDGE CONSTRUCTION AND LATEST VERSION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 9. ALL MAINTENANCE OF TRAFFIC M.O.T. FOR THIS PROJECT WILL BE IN COMPLIANCE WITH THE DEPARTMENTS CURRENT EDITION OF THE FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION INDICES, (102-600 SERIES) AND THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE OPERATIONS ENGINEER OR HIS DESIGNEE RESERVES THE RIGHT TO DIRECT THE REMOVAL/RELOCATION/MODIFICATION OF ANY TRAFFIC DEVICE(S) AT THE PERMITTEE'S SOLE EXPENSE. SPECIAL ATTENTION WILL BE GIVE TO INDICES 102-611, 102-612, 102-613, 102-614, 102-615, 102-616, AND 102-660.
- 10. IT IS THE PERMITTEE'S RESPONSIBILITY TO OBTAIN FINAL ACCEPTANCE OF PERMITTED WORK (COMPLETED) AND THE RESTORATION OF THE RIGHT-OF-WAY FROM THE FDOT PRIOR TO USAGE.

#### FDOT PLANTING NOTES

FOR THE PORTION OF LANDSCAPE PLANT MATERIAL THAT WILL BE INSTALLED WITHIN THE FDOT RIGHT OF WAY, LANDSCAPE INSTALLATION SHALL COMPLY WITH CURRENT APPLICABLE FDOT MAINTENANCE SPECIFICATION 580. ONLINE REFERENCE:

HTTPS://WWW.FDOT.GOV/PROGRAMMANAGEMENT/MAINTENANCE/2021JAN/MAINTENANCE-SPECIFICATIONS --- IANUARY-2021

2. FOR THE PORTION OF LANDSCAPE PLANT MATERIAL THAT WILL BE INSTALLED WITHIN THE FDOT RIGHT OF WAY REFER TO THE FDOT STANDARD PLANS INDEX 580-001 LANDSCAPE INSTALLATION. ONLINE REFERENCE:

HTTPS://FDOTWWW.BLOB.CORE.WINDOWS.NET/SITEFINITY/DOCS/DEFAULT-SOURCE/DESIGN/STANDARDPLANS/ 2022/IDX/580-001.PDF

3. CYPRESS MULCH IS NOT PERMITTED ON FDOT RIGHT OF WAY, MULCH PERMITTED TO BE USED ARE HARDWOOD MULCH (CONTAINING NO CYPRESS PRODUCTS), RECYCLED MULCH OR APPROVED EQUAL, CERTIFIED BY THE MULCH AND SOIL COUNCIL (MSC). SUBMIT PROOF OF CERTIFICATION TO THE FDOT DISTRICT OPERATIONS PERMIT LANDSCAPE INSPECTOR UPON INSPECTION.

#### FDOT IRRIGATION NOTES

- 1. FDOT REQUIRES 24-HOUR EMERGENCY ACCESS TO WATER SOURCE.
- 2. CONTRACTOR SHALL PROVIDE FDOT DISTRICT OPERATIONS MANAGER WITH A SET OF "AS-BUILT" IRRIGATION PLANS.
- 3. CUTTING/PATCHING THE ROADWAY SURFACE IS PROHIBITED AS A PART OF THE SCOPE OF THIS PROJECT.
- 4. PERMITTEE'S REPRESENTATIVE \$ AN FDOT INSPECTOR MUST BE ON SITE DURING ALL BORING ACTIVITIES. UPON COMPLETION OF THE BORING ACTIVITIES, PERMITTEE SHALL PROVIDE ALL DOCUMENTATION TO BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS, SECTION 555 OR 556, WHICHEVER IS APPLICABLE.
- 5. PERMITTEE'S CONTRACTORS THAT ARE PERFORMING DIRECTIONAL DRILLING AND/OR JACK AND BORE ACTIVITIES SHALL PROVIDE THE DEPARTMENT (PERMITS OFFICE) PROOF OF A PROPER STATE CONTRACTOR'S LICENSE AND CERTIFICATE OF LIABILITY INSURANCE PRIOR TO ANY COMMENCEMENT OF PERMITTED WORK.
- PERMITTEE WILL ENSURE THAT ALL LOCATES HAVE BEEN PERFORMED PRIOR TO SCHEDULING OF ANY BORING ACTIVITIES. THIS SHALL INCLUDE SOFT DIGS TO VERIFY VERTICAL \$ HORIZONTAL ALIGNMENT.
- SLEEVING MUST BE 36" BELOW THE ROADWAY. VERIFY WITH FDOT MAINTENANCE THAT SLEEVING/DIRECTIONAL BORE IS PERMITTED AT THIS TIME. A NEWLY RESURFACED ROAD CANNOT BE DISTURBED FOR 5 YEARS.

Kimley»Horn

IONATHAN D. HAIGH, PLA

LA #6666795 07/26/2022

AWN BY:	DATE: 07/01/2021
SIGNED BY:	SCALE: AS
SCKED BY:	SHOWN
ILD BOOK:	

E GE GE

LAUDERDAL TRANSPORTATION FOR

KEETSCAPE PROJECT O TO NE 13TH ST ALE, FL T # 12557
FINDE STREE
ISE BLVD T
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STES PROJECT #
NE 4TH AVEN
E SUNRISE
FORT LAUI

CALL 2 WORKING DAYS BEFORE YOU DIG IT'S THE LAW! DIAL 811

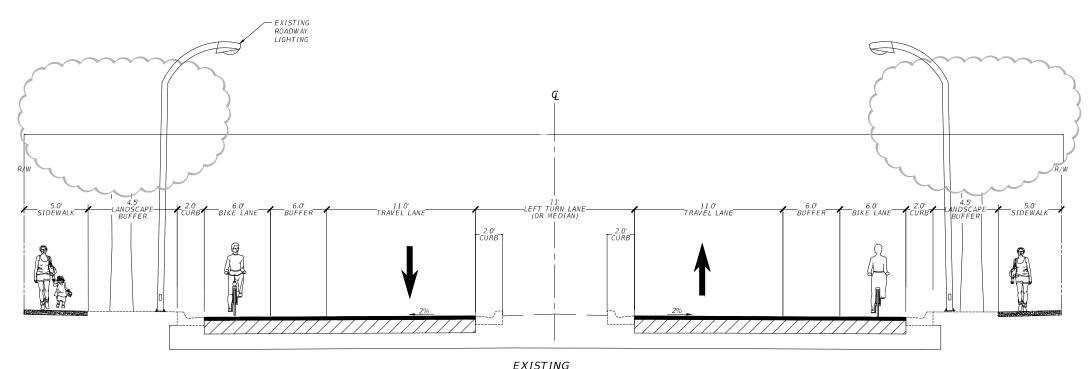
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<u>RTICAL DATUM</u> EVATIONS SHOWN HEREON ARE BASED ON T NAVD '88 FLEV + 1.565' = NGVD '29 FLEVATION THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS

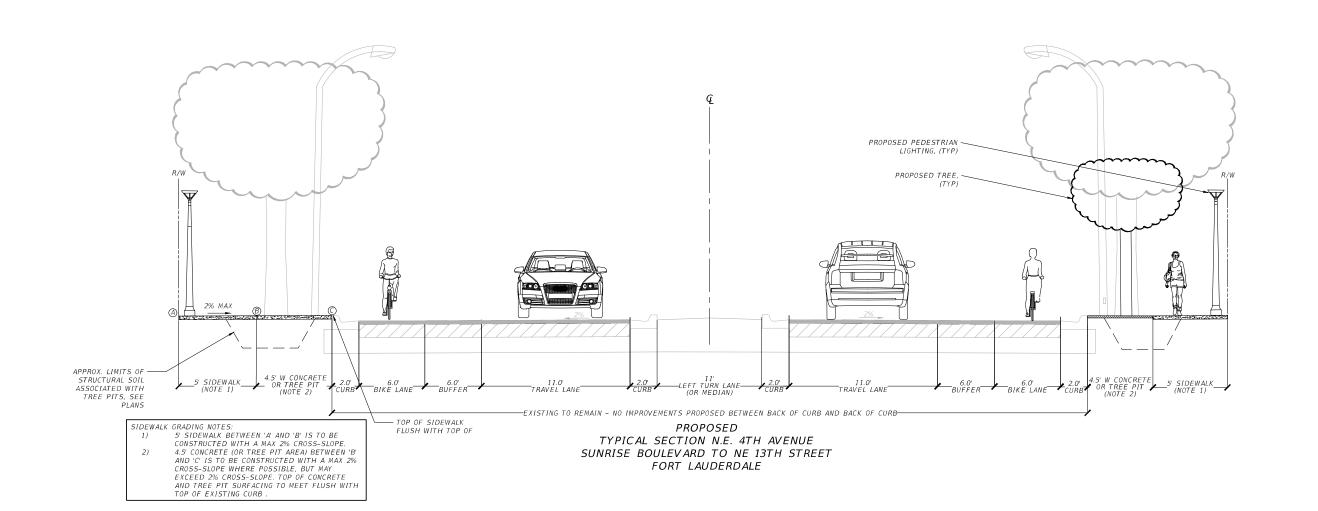
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AM 24-1145

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**EXISTING** TYPICAL SECTION N.E. 4TH AVENUE SUNRISE BOULEVARD TO NE 13TH STREET FORT LAUDERDALE



Kimley»Horn

JONATHAN D. HAIGH, PLA

LA #6666795 07/26/2022

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DATE: 07/01/2021	SCALE:	SHOWN	
AWN BY:	SIGNED BY:	BCKED BY:	ELD BOOK:

PIE CHE

OF FORT LAUDERDALE TRANSPORTATION



PROJECT # 12557

NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
TYPICAL SECTIONS

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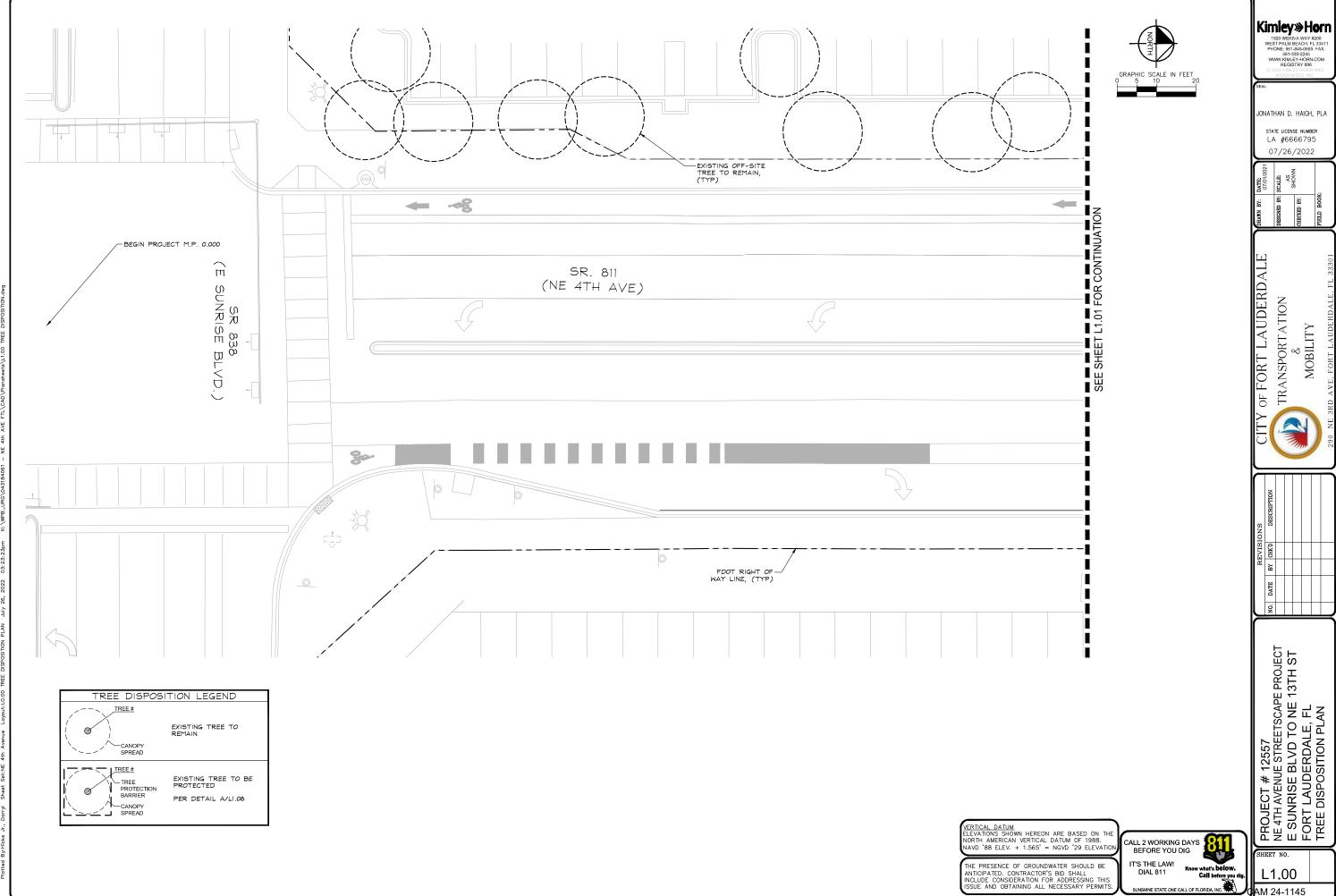
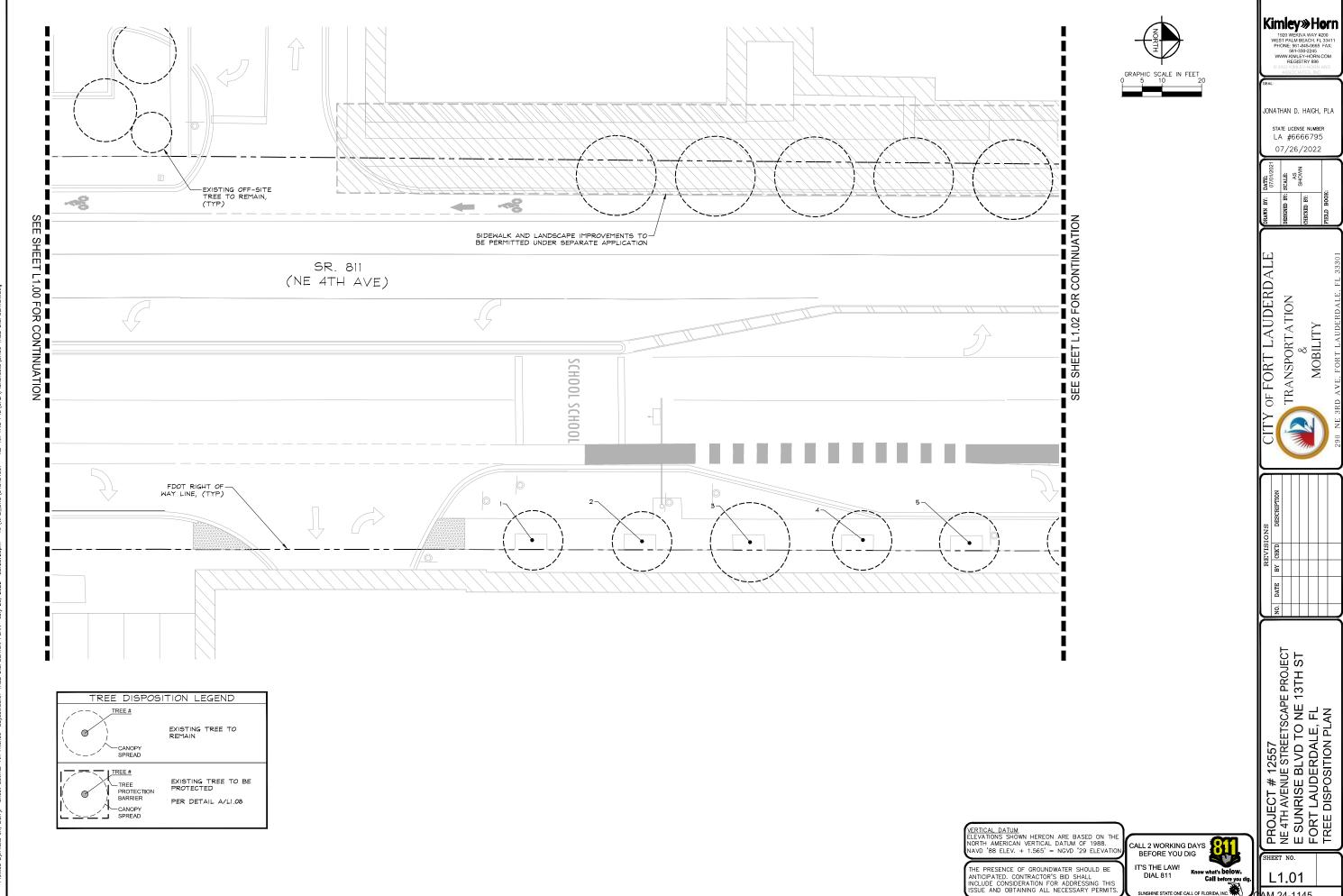


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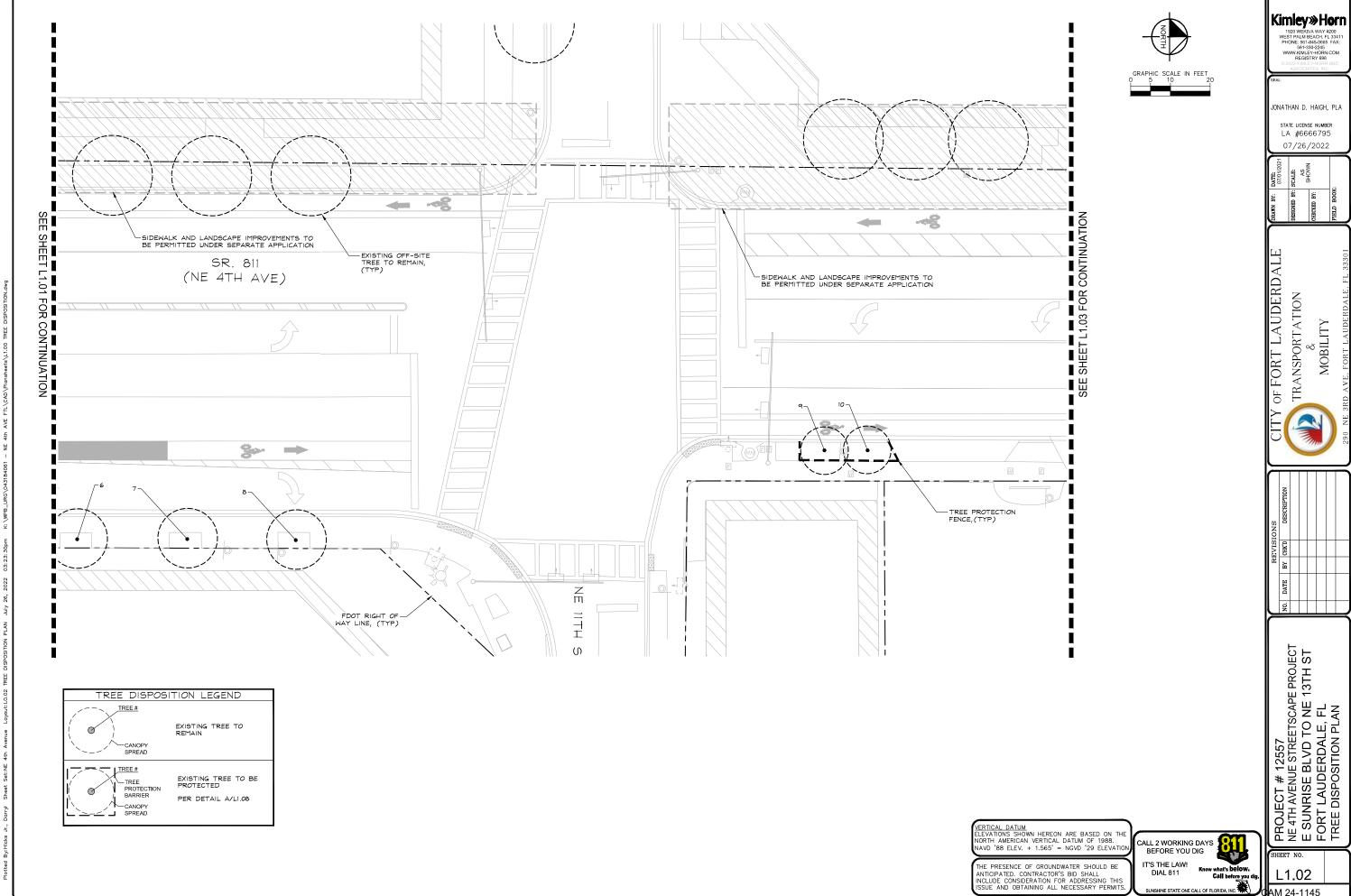
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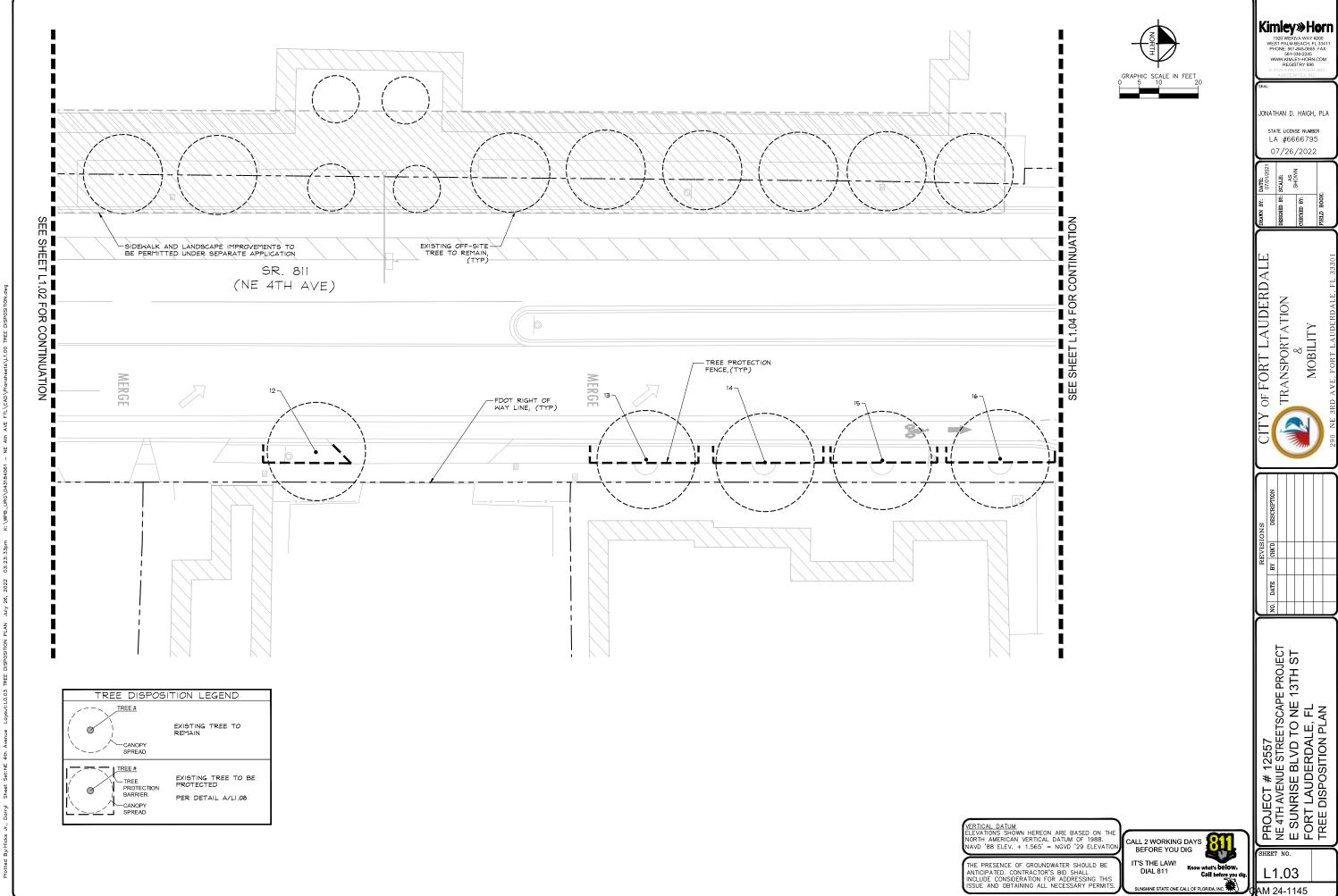
AM 24-1145 Exhibit 1

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LA #6666795

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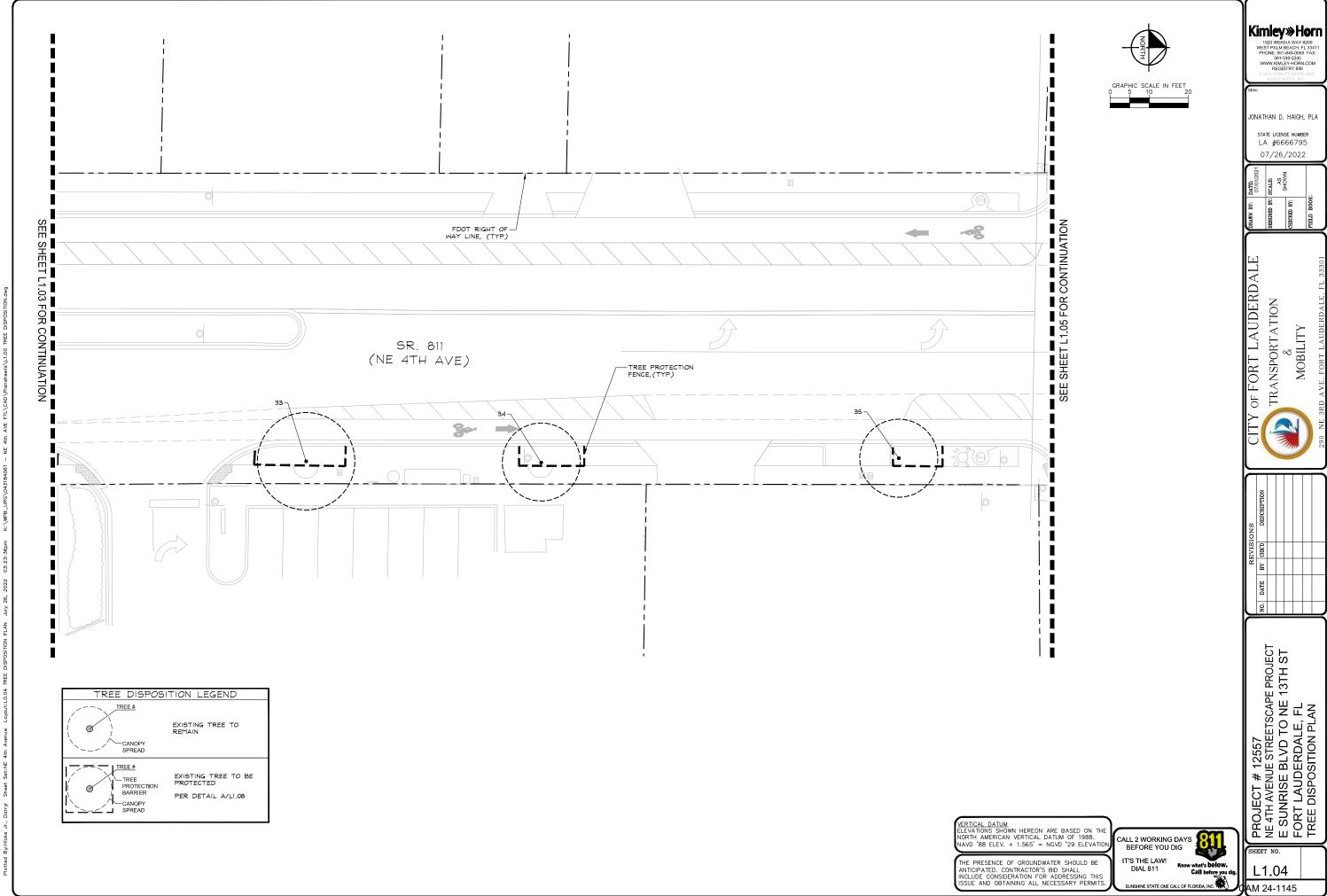


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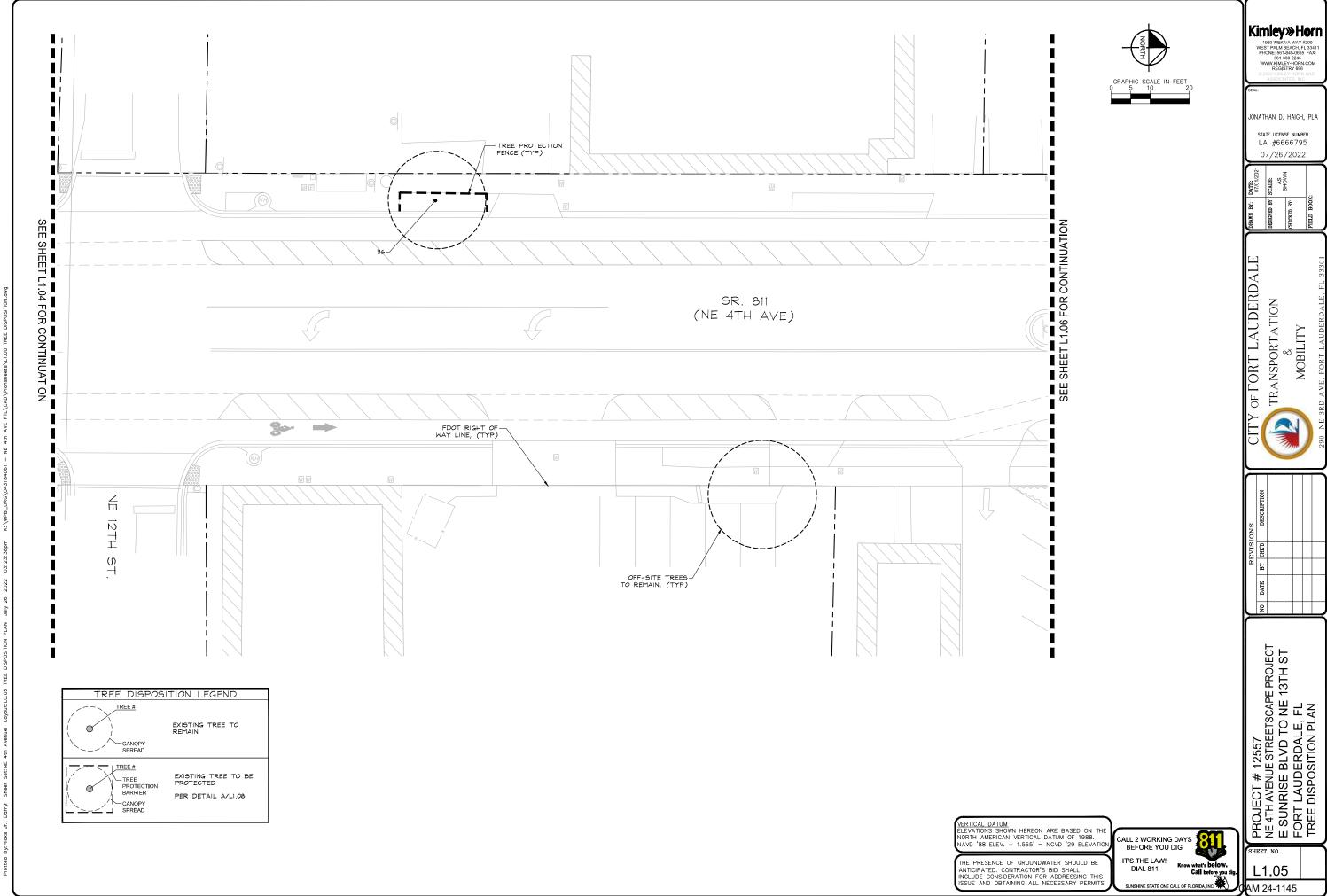
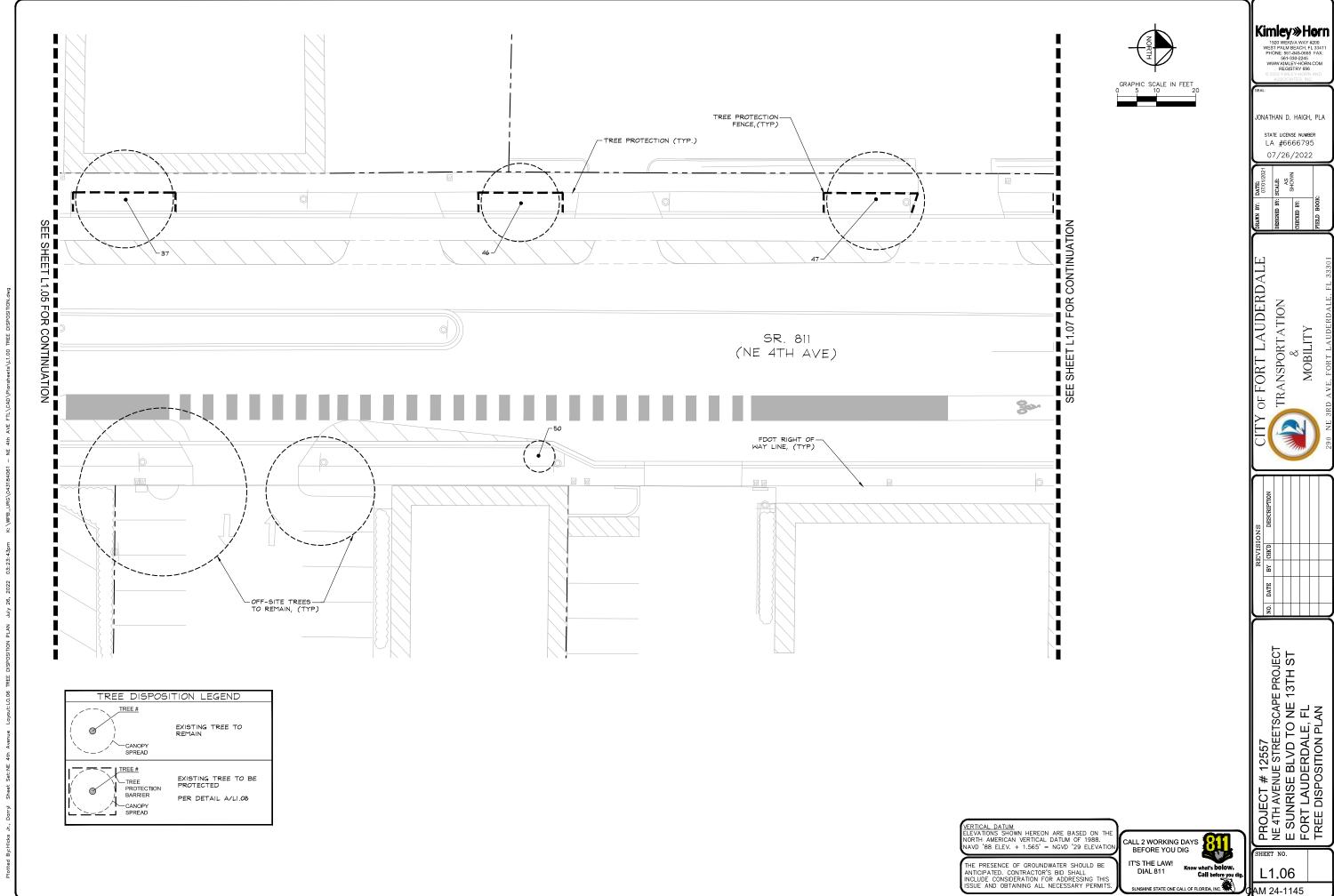


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Exhibit 1

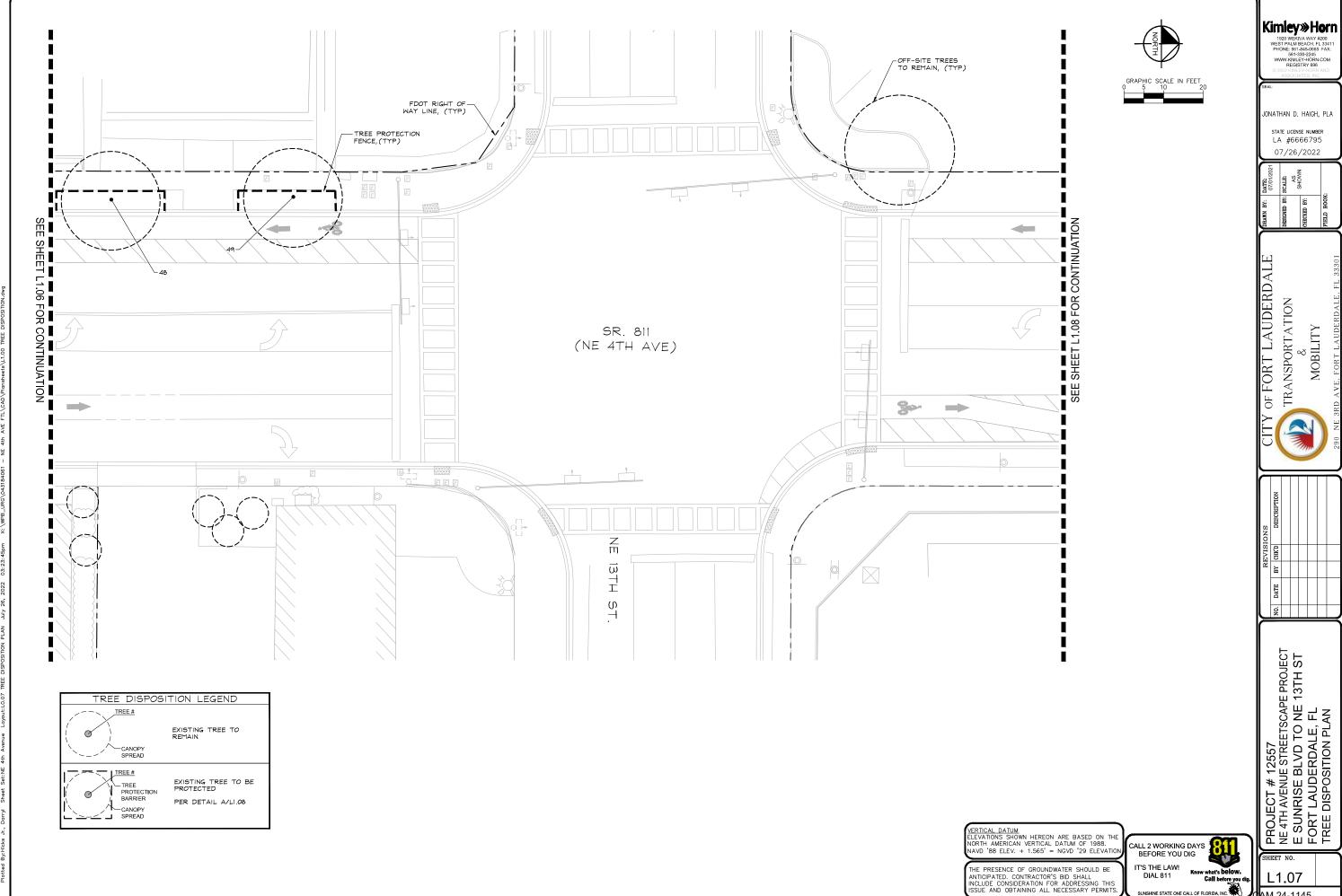
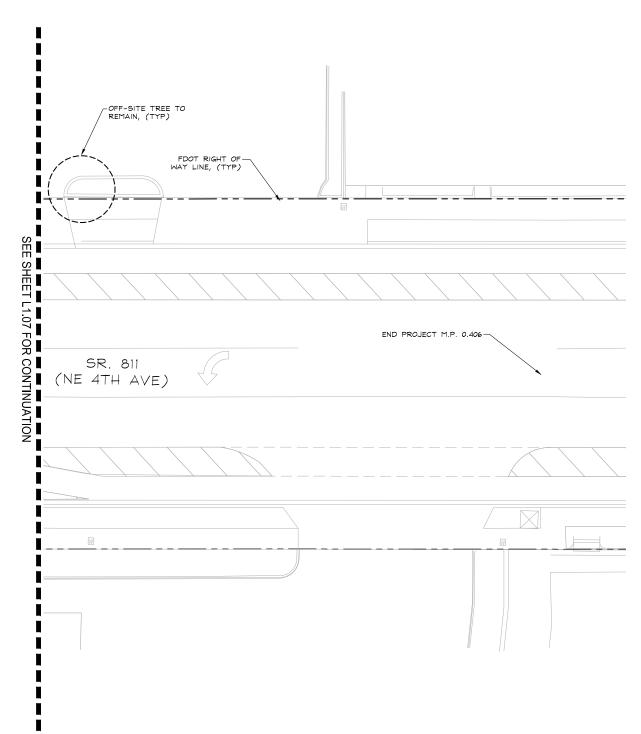


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NO.	BOTANICAL NAME	COMMON NAME	DBH (in)	CT (ft)	SPR (ft)	CONDITION	DISPOSITION
1	Washingtonia robusta	Washington Palm		25	15	Good	Remain
2	Washingtonia robusta	Washington Palm		40	15	Good	Remain
3	Washingtonia robusta	Washington Palm		30	20	Good	Remain
4	Washingtonia robusta	Washington Palm		40	15	Good	Remain
5	Washingtonia robusta	Washington Palm		40	15	Good	Remain
6	Washingtonia robusta	Washington Palm		25	15	Good	Remain
7	Washingtonia robusta	Washington Palm		40	15	Good	Remain
8	Washingtonia robusta	Washington Palm		40	15	Good	Remain
9	Sabal palmetto	Cabbage Palm		10	12	Good	Remain
10	Sabal palmetto	Cabbage Palm		15	12	Good	Remain
11	Quercus virginiana	Southern Live Oak	7	25	25	Good	Remain
12	Quercus virginiana	Southern Live Oak	10	25	25	Good	Remain
13	Quercus virginiana	Southern Live Oak	6	25	25	Good	Remain
14	Quercus virginiana	Southern Live Oak	6	25	25	Good	Remain
15	Quercus virginiana	Southern Live Oak	6	25	25	Good	Remain
16	Quercus virginiana	Southern Live Oak	6	25	25	Good	Remain
33	Quercus virginiana	Southern Live Oak	14	30	25	Good	Remain
34	Quercus virginiana	Southern Live Oak	10	30	20	Good	Remain
35	Quercus virginiana	Southern Live Oak	8	25	20	Good	Remain
36	Quercus virginiana	Southern Live Oak	8	30	25	Good	Remain
37	Quercus virginiana	Southern Live Oak		35	25	Good	Remain
46	Quercus virginiana	Southern Live Oak	8	25	20	Good	Remain
47	Quercus virginiana	Southern Live Oak	10	25	25	Good	Remain
48	Quercus virginiana	Southern Live Oak	8	30	25	Good	Remain
49	Quercus virginiana	Southern Live Oak	10	30	25	Good	Remain
50	Phoenix roebelenii	Pygmy Date Palm		6	8	Good	Remain

EXISTING TREE - PRUNING NOTES:

- 1. TREE PRUNING WORK MUST BE PERFORMED BY OR DIRECTLY SUPERVISED BY AN ISA CERTIFIED ARBORIST.
- 2. CONTRACTOR SHALL HOLD A PRE-PRUNING CONFERENCE WITH THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO COMMENCING PRUNING OPERATIONS.
- 3. PRUNE TREES PER ANSI A300 FOR THE FOLLOWING:

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LA #6666795

07/26/2022

BCKED BY: NED BY:

OF FORT LAUDERDALE

TRANSPORTATION

& Mobility

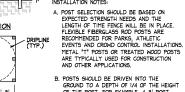
- 3.1. MAINTENANCE TO MAINTAIN OR IMPROVE THE TREE'S HEALTH AND STRUCTURE
  3.2. HAZARD REDUCTION TO REMOVE DEAD LIMBS OR OTHER VISIBLE HAZARDS FROM THE TREE CANOPY

- OR OTHER VISIBLE HAZARDS FROM THE TREE
  CANOPY

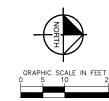
  3.3. CROWN CLEANING TO SELECTIVELY REMOVE
  DEAD, DYING OR DISEASED BRANCHES, WEAK
  BRANCHES, AND SUCKER SPROUTS.
  3.4. CROWN RAISING TO REMOVE LOWER BRANCHES
  TO PROVIDE VERTICAL CLEARANCE
  3.5. VISTA PRUNING TO SELECTIVELY THIN
  FRAMEWORK LIMBS WITHIN THE CROWN TO ALLOW
  FOR VIEWS THROUGH THE TREE

  3.6. CROWN RESTORATION TO IMPROVE THE
  STRUCTURE, FORM, AND APPEARANCE OF A TREE
  THAT HAS BEEN DAMAGED, HEADED, OR
  VANDALIZED





CORNER



VERTICAL DATUM ELEVATIONS SHOWN HEREON ARE BASED ON T NORTH AMERICAN VERTICAL DATUM OF 1988. NAVD '88 ELEV. + 1.565' = NGVD '29 ELEVATION

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS CALL 2 WORKING DAYS 1811 BEFORE YOU DIG IT'S THE LAW!

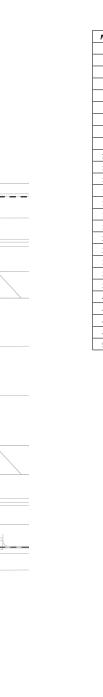
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Know what's below. Call before you di

PROJECT # 12557

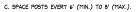
NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
TREE DISPOSITION PLAN SHEET NO. L1.08

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ELEVATION

B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE



D. SECURE FENCING TO POST WITH NYLON
CABLE TIES (AVAILABLE FROM CONNED
PLASTICS). WOOD STRIPS MAY BE ALSO BE
USED TO PROVIDE ADDITIONAL SUPPORT
AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

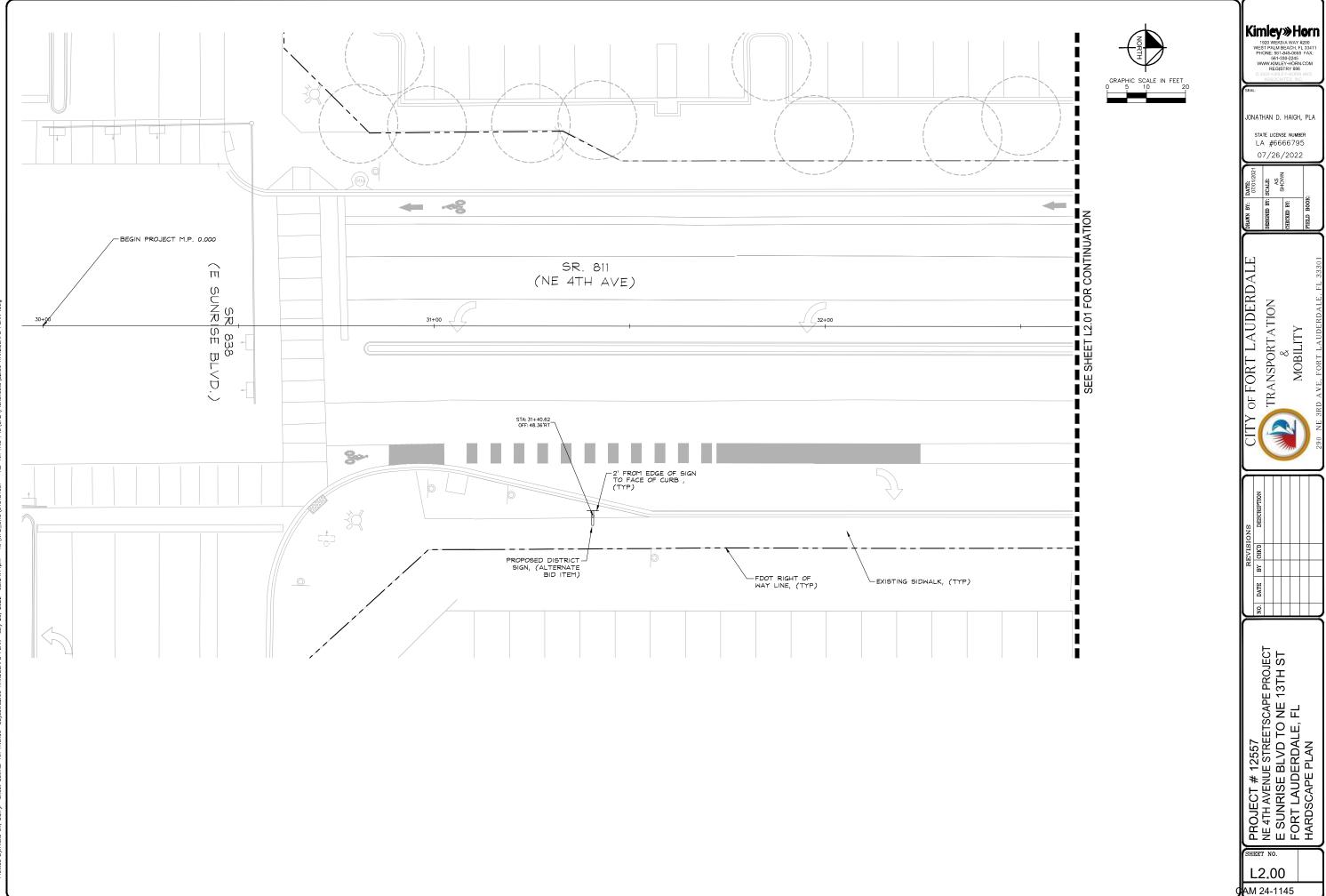


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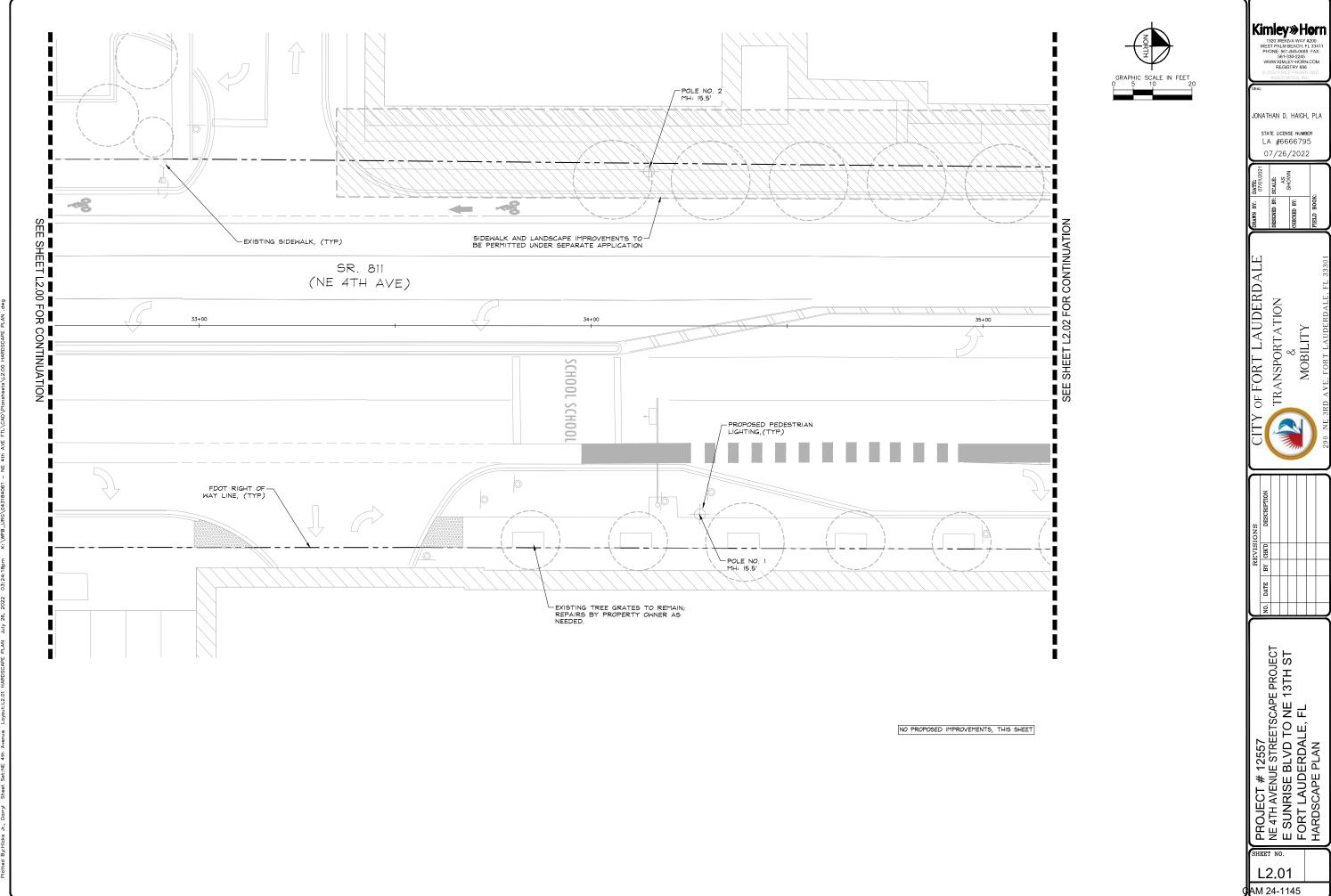


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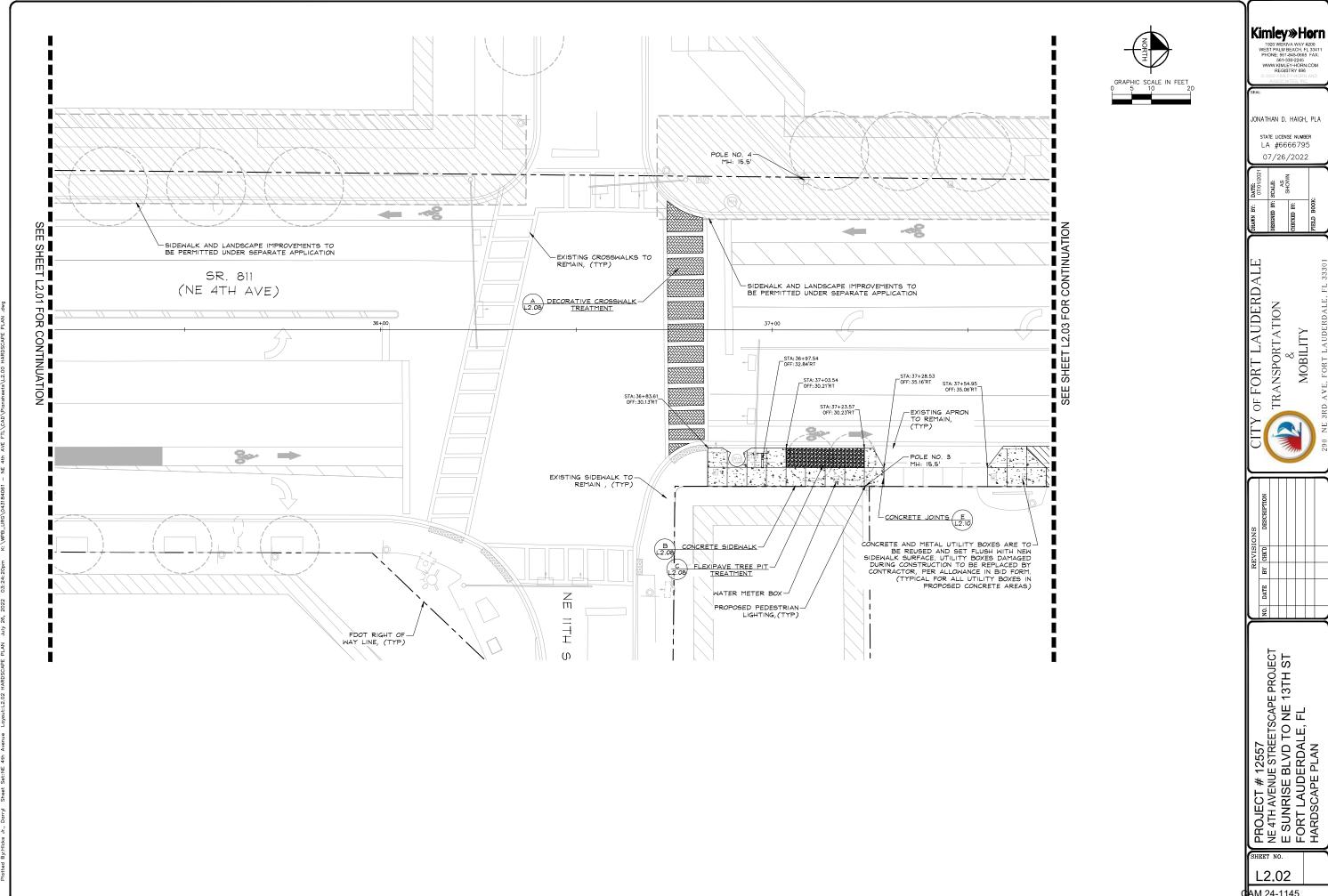
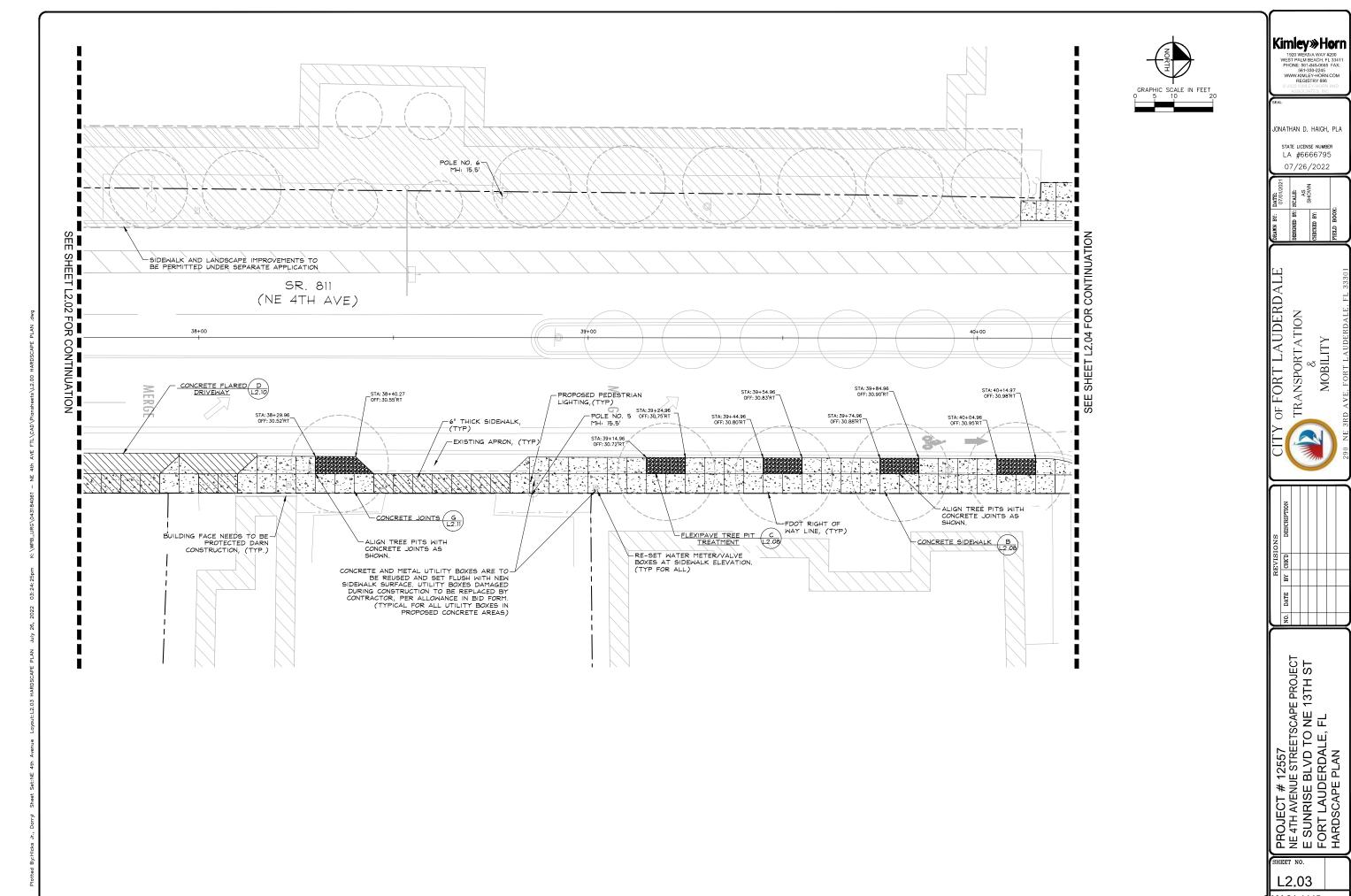


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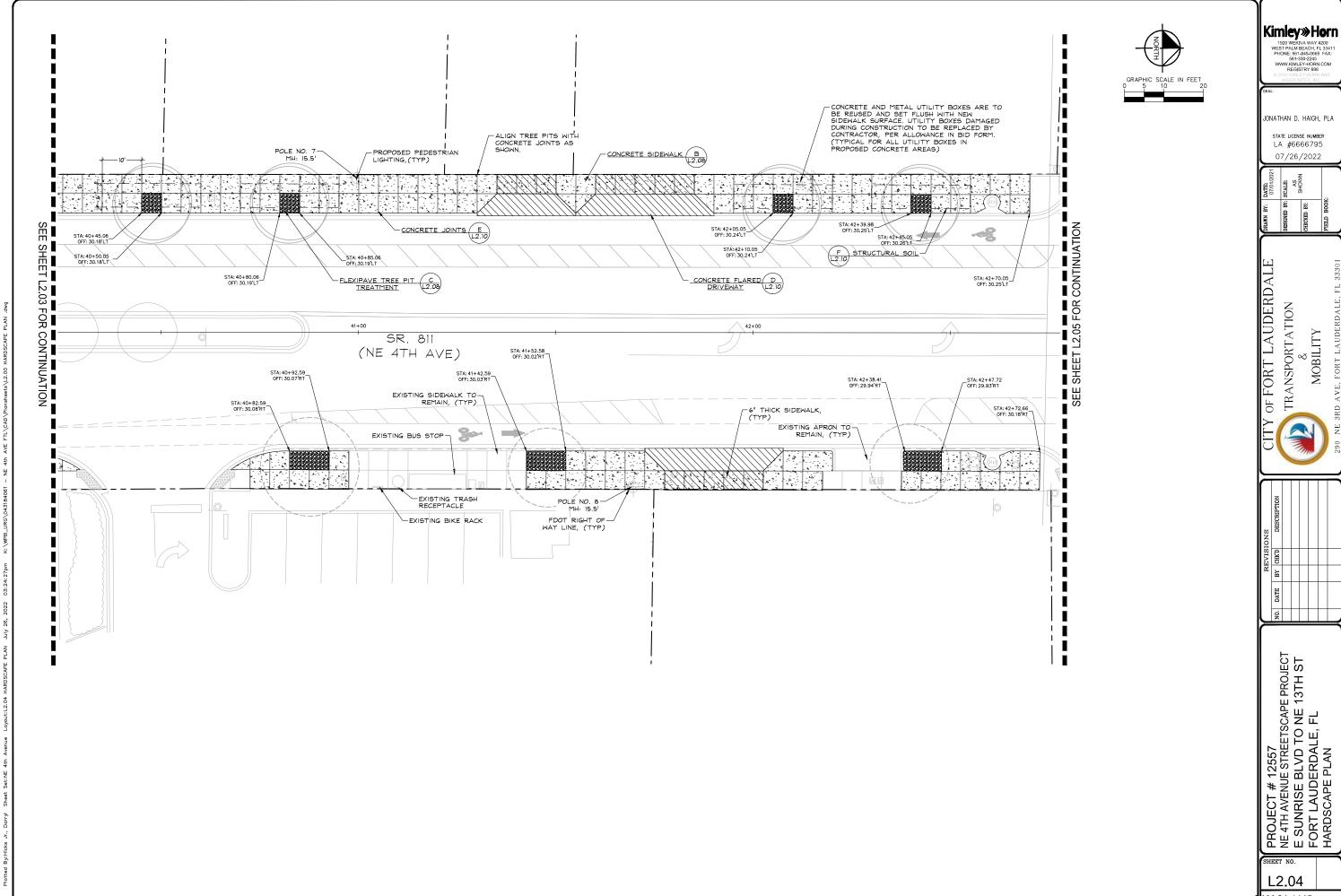


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LA #6666795

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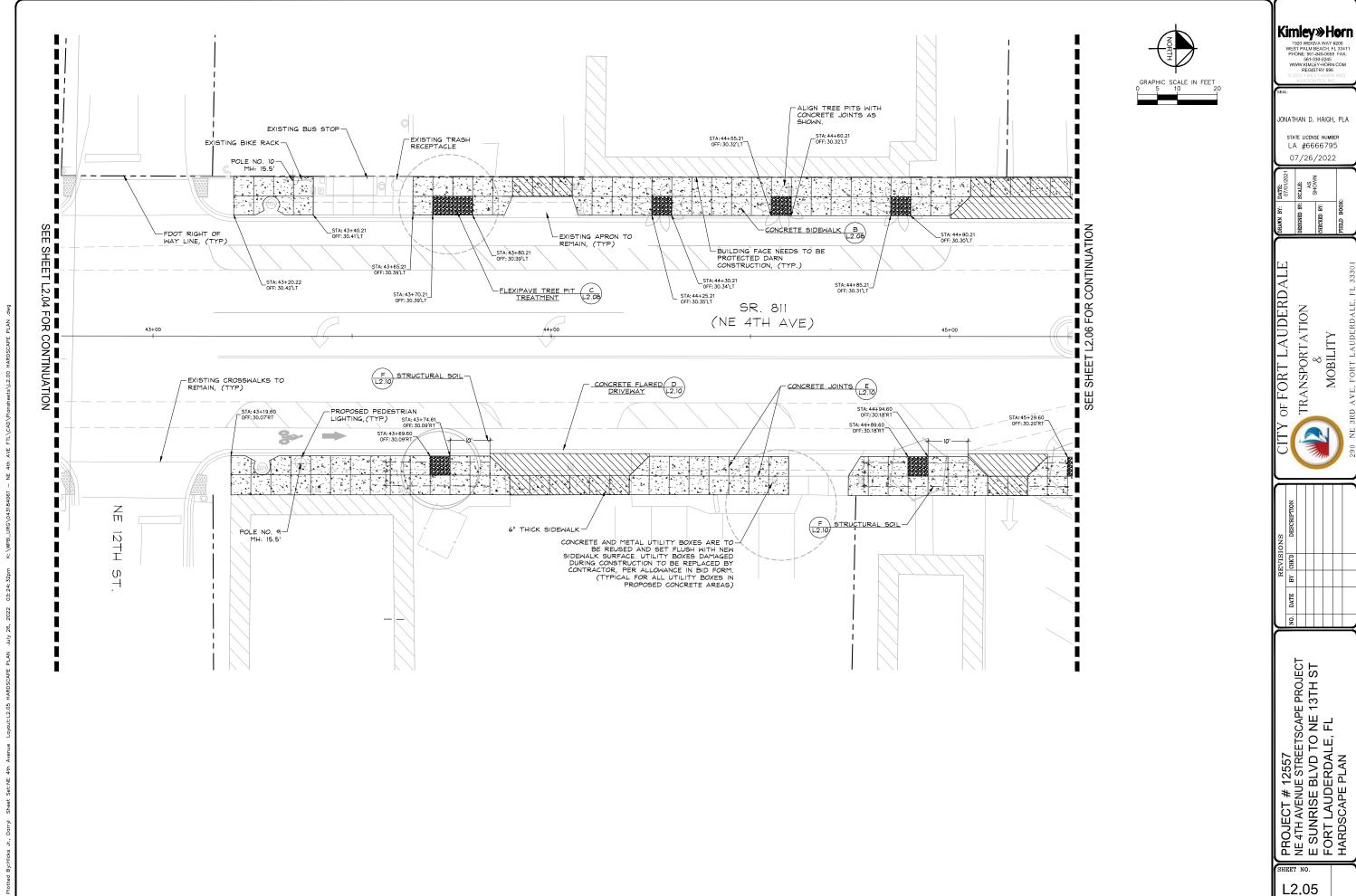
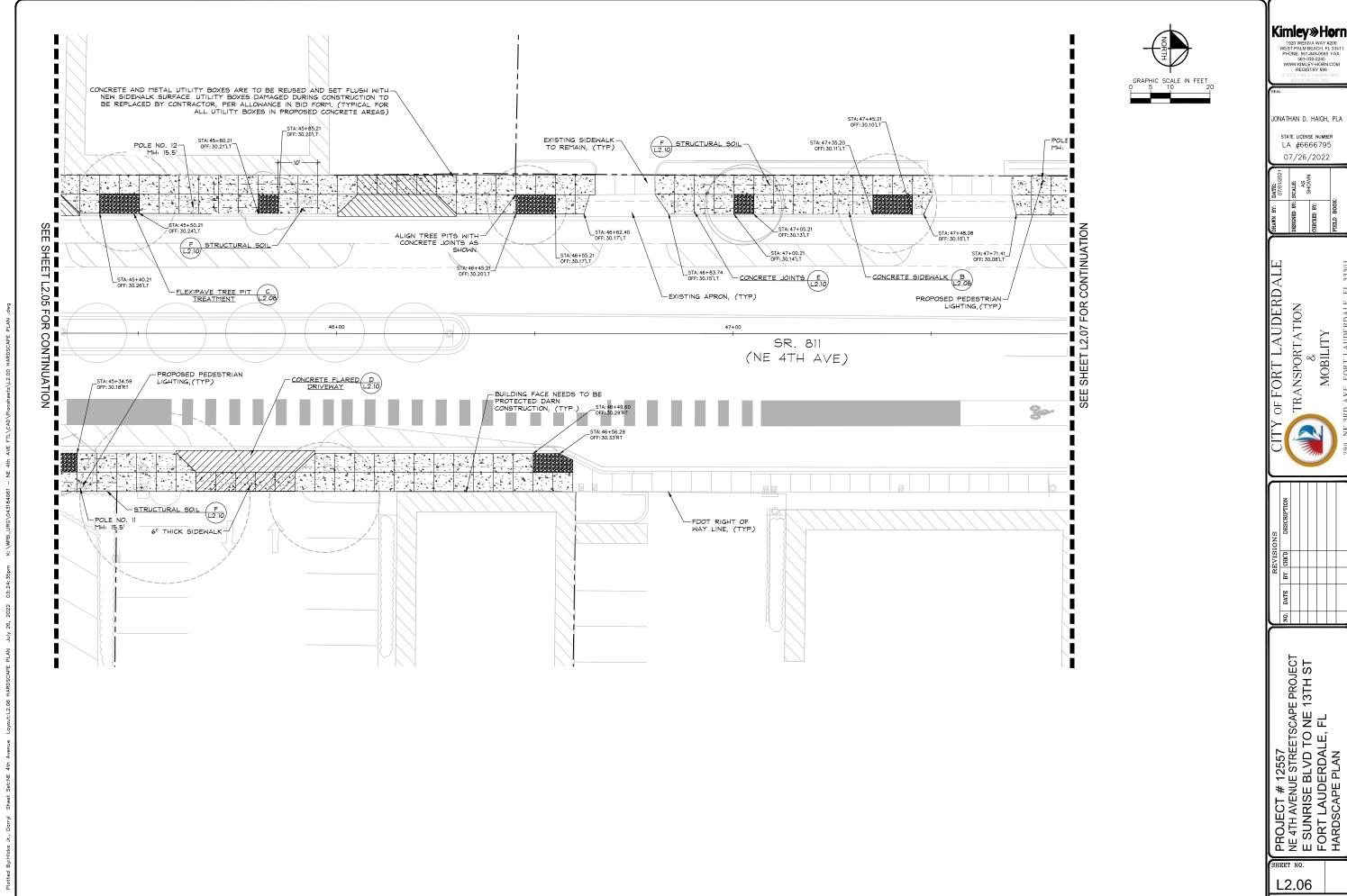


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JONATHAN D. HAIGH, PLA

LA #6666795 07/26/2022

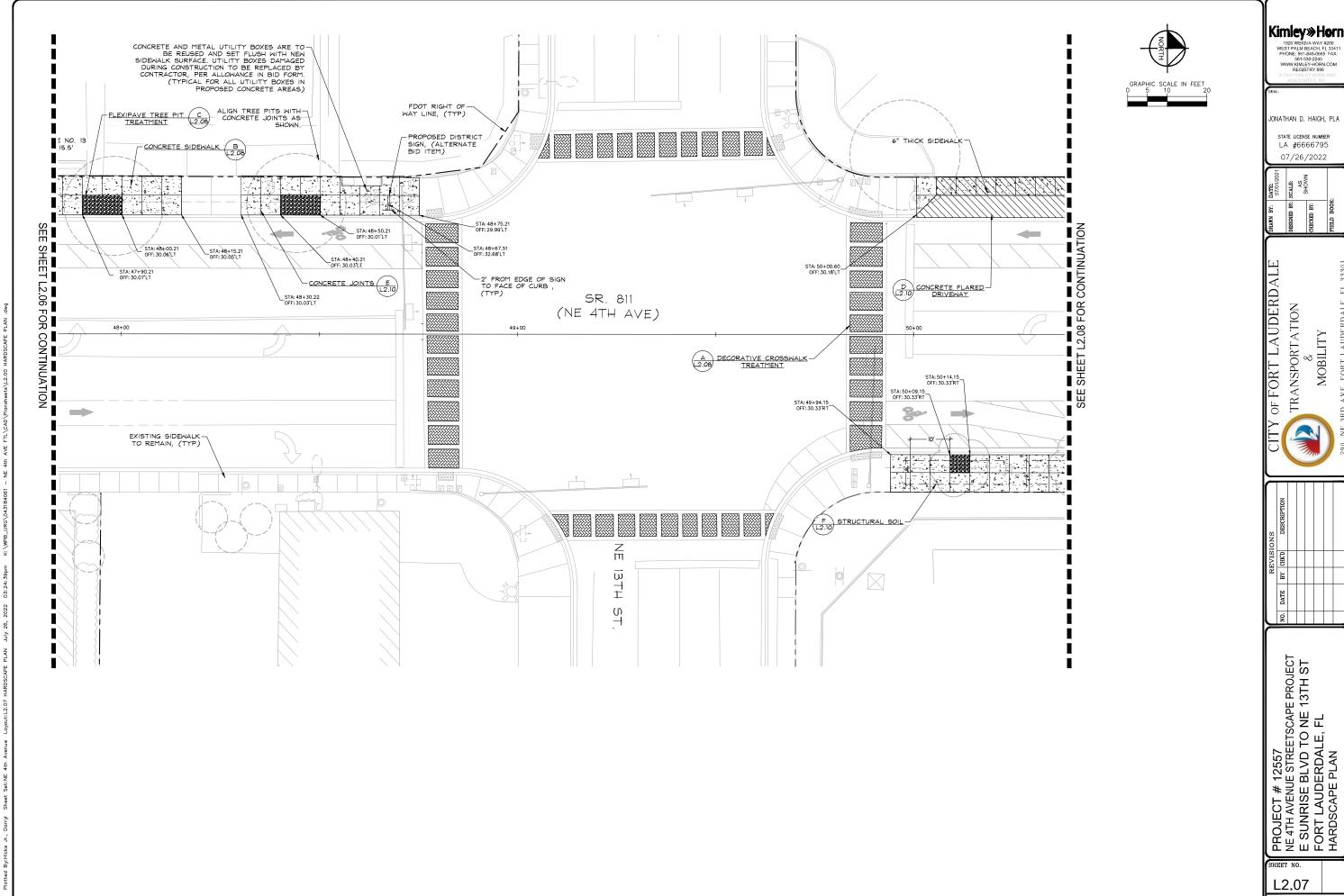
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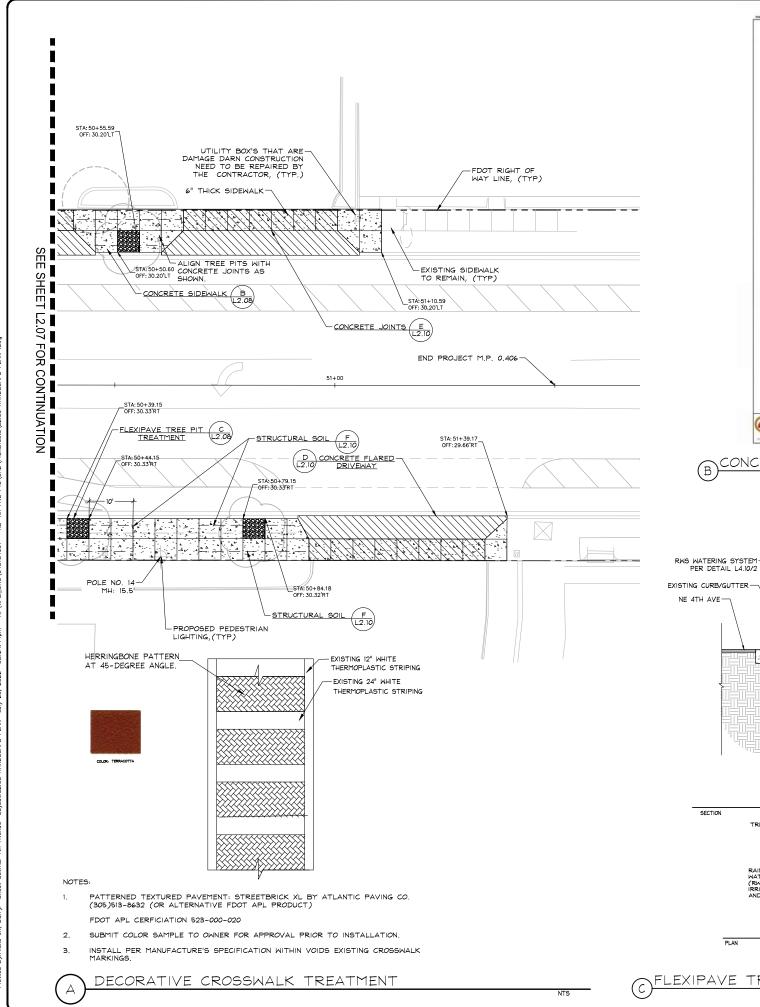
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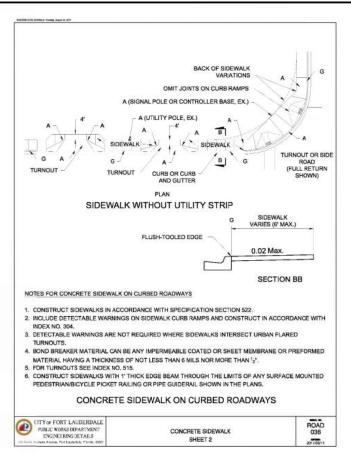


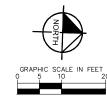
Kimley»Horn

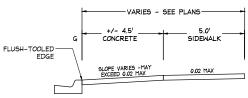
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TYPICAL SIDEWALK SECTION - NE 4TH IMPROVEMENTS

(B) CONCRETE SIDEWALK ON CURBED ROADWAYS

INSTALL FLEXIPAVE PRODUCT TO LEAVE 6" CLEAR AT BASE OF TRUNK. HAND-PLACE FLEXIPAVE PRODUCT IN OPENING, PER MANUFACTURER'S SPECIFICATION 1.5" FLEXIPAVE PRODUCT FLUSH MITH ADJACENT PAVEMENT AND TOP OF CURB, SEE NOTES 3" WASHED #57 STONE -CONCRETE SIDEWALK SEE CIVIL PLANS -NON WOVEN GEOTEXTILE FABRIC TURN UP AT EDGES (MIRAFI 500X OR EQUAL) -ANCHORING SYSTEM BY PLATAPUS OR APPROVED EQUAL FOR NEW TREE AND PALM INSTALLATIONS. REFER TO FDOT INDEX 580-001 FOR UNDERGROUND BRACING WITHIN R/W TREE SOIL BACKFILL. SEE BACKFILL NOTES - PARTIE GRAVEL, COMPACTED BELOW RWS BUBBLER SYSTEM, TO SUPPORT BOTTOM OF UNIT. -ROOTBALL DIRECTLY ON TOP OF NATIVE SOIL -INSERT SOIL ANCHORS INTO NATIVE SOIL LAYER CURB TREE OR PALM TRUNK-

#### RUBBERIZED TREE PIT NOTES:

- IRRIGATION BUBBLERS: INSTALL TWO (2) 4" ROUND RINS BUBBLERS, SPACED EQUALLY AROUND THE TREE.REFER TO IRRIGATION PLANS AND DETAILS.TOP OF RINS GRATE TO BE FLUSH WITH FLEXIPAYE SURFACE.
- 2. RUBBERIZED TREE PIT PRODUCT:BY KBI INDUSTRIES INC. 1 (777) 723-3300 FLEXIPAYE HD20000 THICKNESS: 1.5° OR AS REQUIRED BY MANUFACTURER COLOR: CYPRESS GUANTITY: S9 SQUARE PITS (5'X5')
- 3. FILL VOID BETWEEN RUBBERIZED TREE PIT PRODUCT AND TOP OF ROOT BALL PER DETAIL.

(C) FLEXIPAVE TREE PIT TREATMENT

RAINBIRD ROOT WATERING SYSTEM (RWS). REFER TO IRRIGATION PLANS

Kimley»Horn

JONATHAN D. HAIGH, PLA

LA #6666795 07/26/2022

**LAUDERDAL** TRANSPORTATION FOR OF

PROJECT # 12557

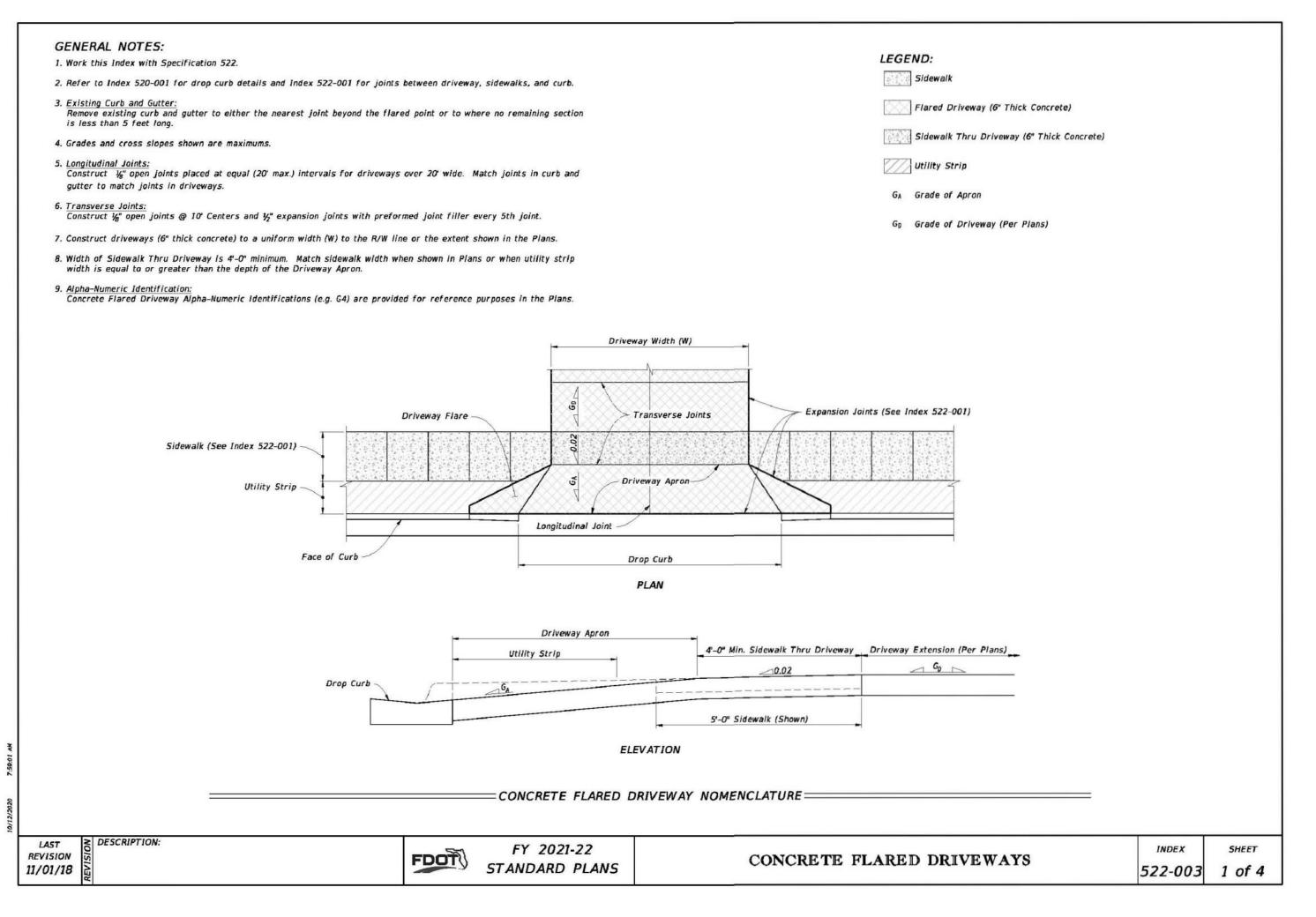
NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
HARDSCAPE PLAN

SHEET NO. L2.08

AM 24-1145

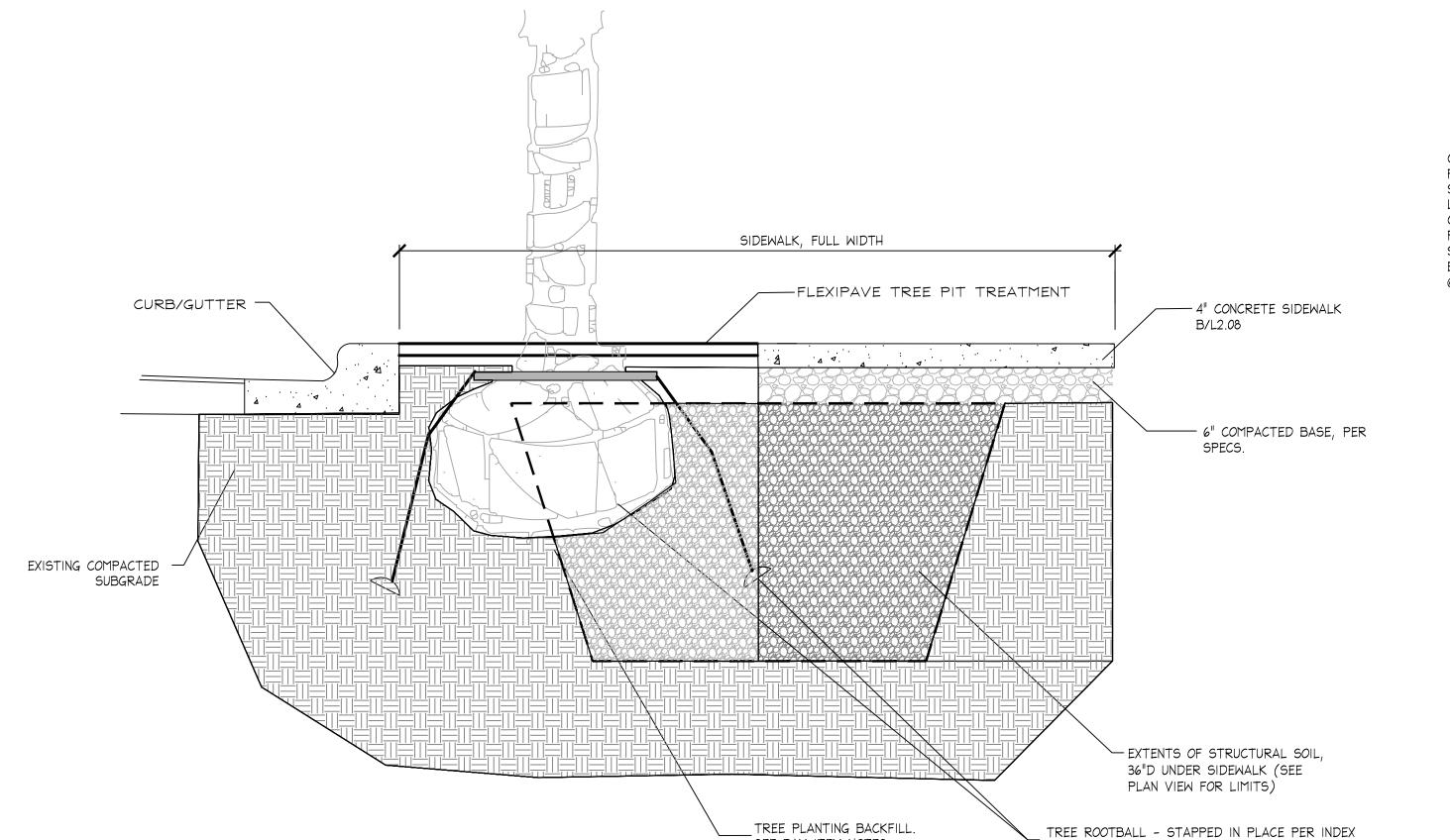
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-DIMENSIONS PER PLAN



CONCRETE FLARED DRIVEWAY NTS

TREE TRUNK



SEE PAY ITEM NOTES.

544 UNDERGROUND BRACING DETAIL

- SIDEWALK SCORING (TYP.) REFER TO HARDSCAPE PLANS 10'-0" (MAX.) 10'-0" (MAX.) (VARIES) -NEW SIDEWALK ----EXISTING CURB/GUTTER EXTENT OF STRUCTURAL SOIL → NE 4TH AVE → PLAN VIEW

1. 80% CLEAN STONE AND 20% CLAY LOAM AND 0.3%

HYDROGEL MIX:

3/4"-1-1/2", HIGHLY ANGULAR WITH NO FINES. 1.2. CLAY LOAM SHALL CONSIST OF (5% GRAVEL, 25%-30% SAND, 20%-40% SILT, AND 25%-40% CLAY, 2%-5%

/ 3/16" SAWED JOINT MAY BE SUBSTITUTED

WITHIN 12 HOURS. ADDITIONAL JOINTS MAY

BE CUT WITHIN 96 HOURS @ 5 FT. INTERVALS.

LIF NOT MORE THAN 30-FOOT INTERVALS

1. PROVIDE EXPANSION JOINTS BETWEEN NEW SIDEWALK AND EXISTING SIDEWALK, CURB, OR AT ANY OTHER RIGID

STRUCTURE. EXPANSION JOINTS ALONG SIDEWALK SHALL BE PROVIDED AT 120 FT. MAXIMUM SPACING.

4. FOR SIDEWALKS WITH ANY VEHICULAR TRAFFIC, COMPACT SUBGRADE TO 98% OF MAXIMUM DENSITY AS

DETERMINED BY ASTM1557. FOR SIDEWALKS WITH ONLY PEDESTRIAN TRAFFIC, COMPACTION MAY BE 95% OF

5. TOOLED CONTRACTION JOINT SHALL BE PROVIDED AT 5 FT. MAXIMUM SPACING. SAWED CONTRACTION JOINT MAY BE SUBSTITUTED IF CUT AT NO MORE THAN 30 FT. INTERVALS WITHIN 12 HOURS AFTER CONCRETE HAS

3. MINIMUM THICKNESS OF SIDEWALK SHALL BE AS SHOWN BELOW (WITH THICKENED EDGE AS SHOWN).

CONTRACTION JOINT

(5 FT. MAX. SPACING)

2. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 3,000 P.S.I. @ 28 DAYS.

SET. ADDITIONAL CUTS @ 5 FT. INTERVALS MUST BE CUT WITHIN 96 HOURS.

1.3. HYDROGEL ACTS AS A TACKIFIER SO SOIL WILL

2. MIX THE HYDROGEL AND CLEAN STONE FIRST, THEN

3. INSTALL STRUCTURAL SOIL IN 6" LIFTS, COMPACTING

SUBMIT PRODUCT DATA AND SAMPLES FOR APPROVA

WEST PALM BEACH, FL 33411 PHONE: 561-845-0665 FAX: 561-330-2245 WWW.KIMLEY-HORN.COM REGISTRY 696

JONATHAN D. HAIGH, PLA

STATE LICENSE NUMBER LA #6666795 10/24/2024

PROJECT # 12557

NE 4TH AVENUE STREETSC

E SUNRISE BLVD TO N

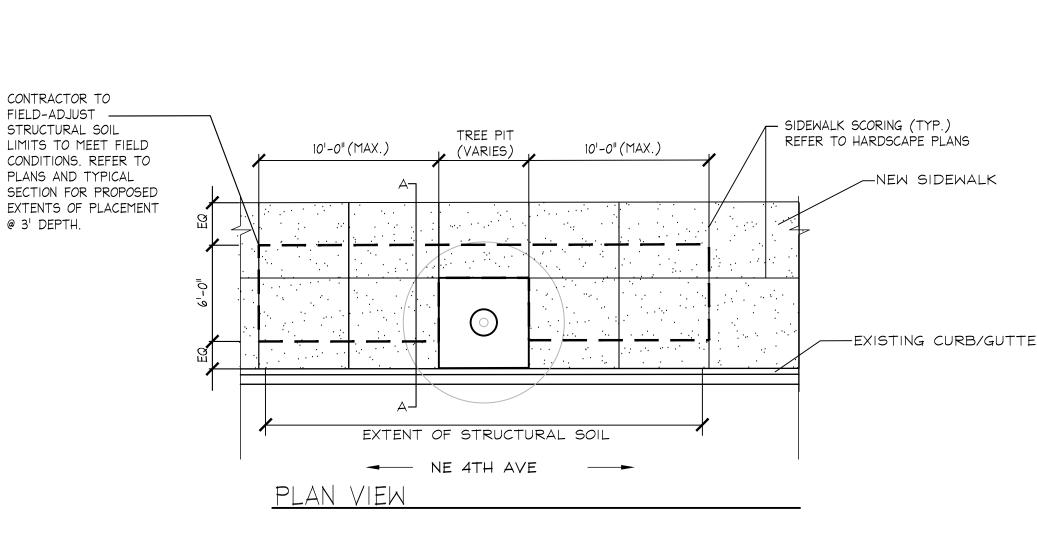
FORT LAUDERDALE, F

HARDSCAPE DETAILS

SHEET NO.

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Exhibit 1



1/2" PREFORMED-

EXPANSION JOINT

EXPANSION JOINT

(120 FT. MAX. SPACING)

MAXIMUM DENSITY.

MATERIAL

NOTES:

CU-STRUCTURAL SOIL MIX:

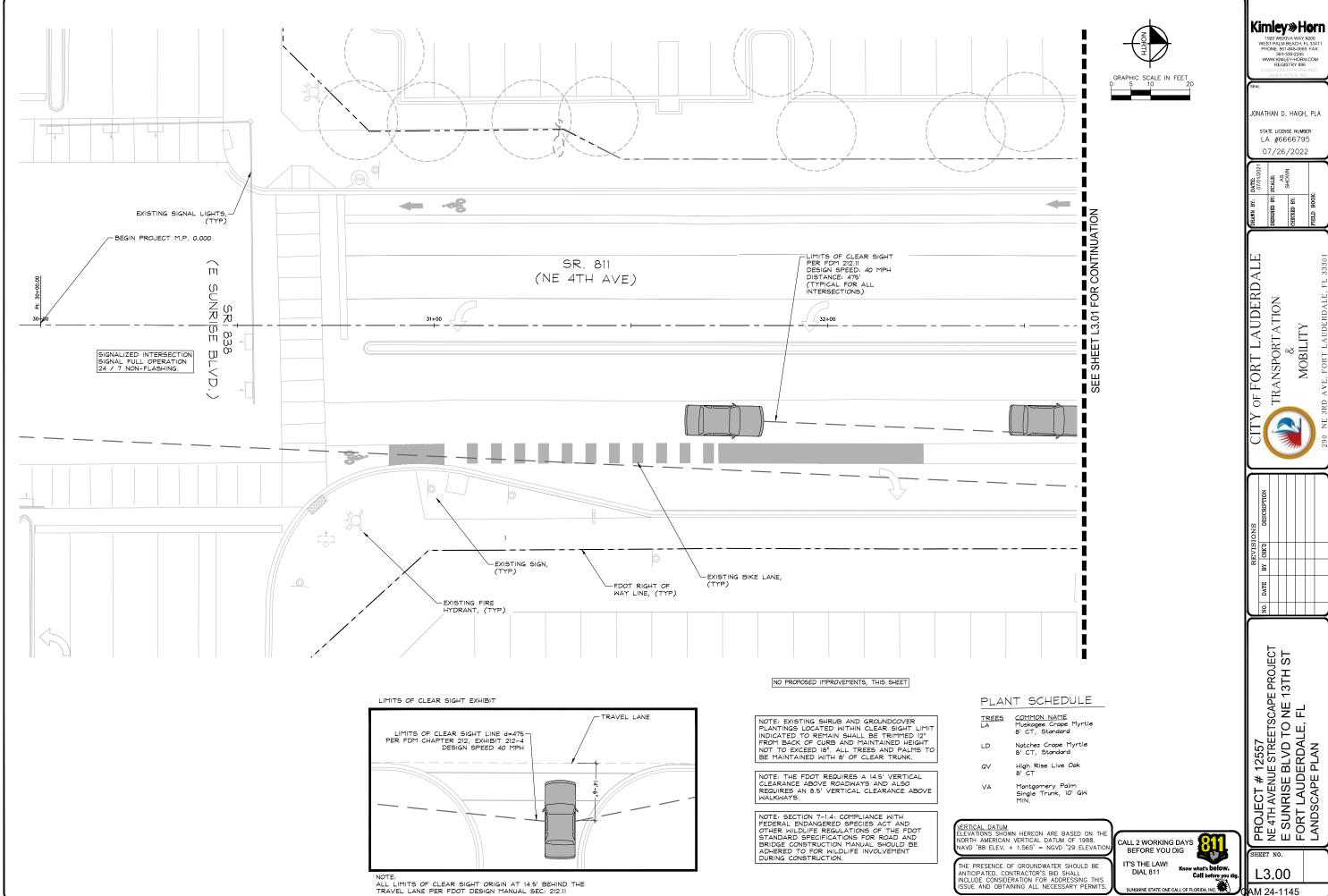
1.1. CLEAN STONE SHALL BE GRANITE GRADED

ORGANIC MATTER. STICK TO STONE.

MIX IN THE CLAY LOAM MIX.

EACH TO 95% STANDARD PROCTOR.

STRUCTURAL SOIL - TREE PLANTERS ONLY



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Exhibit 1

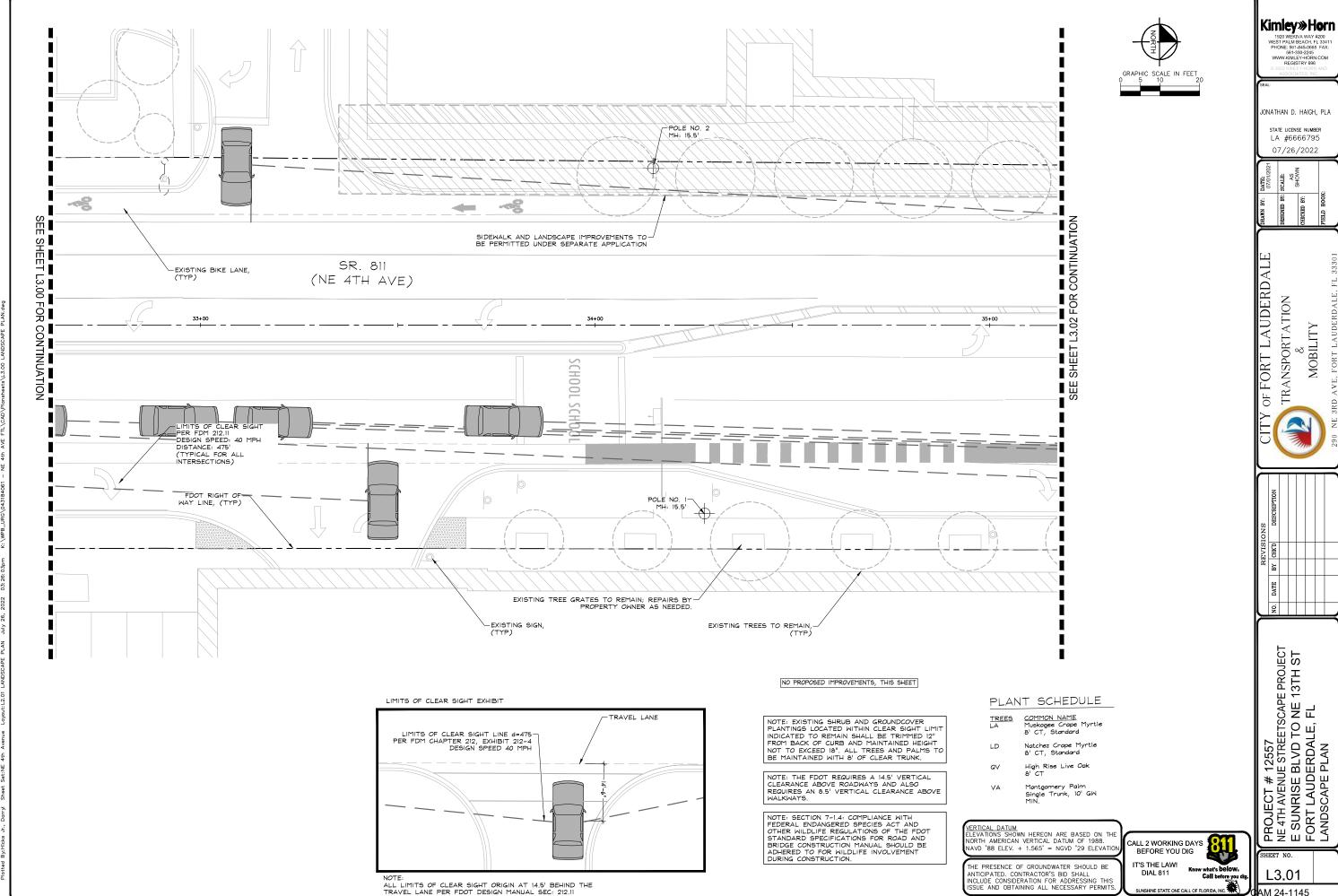
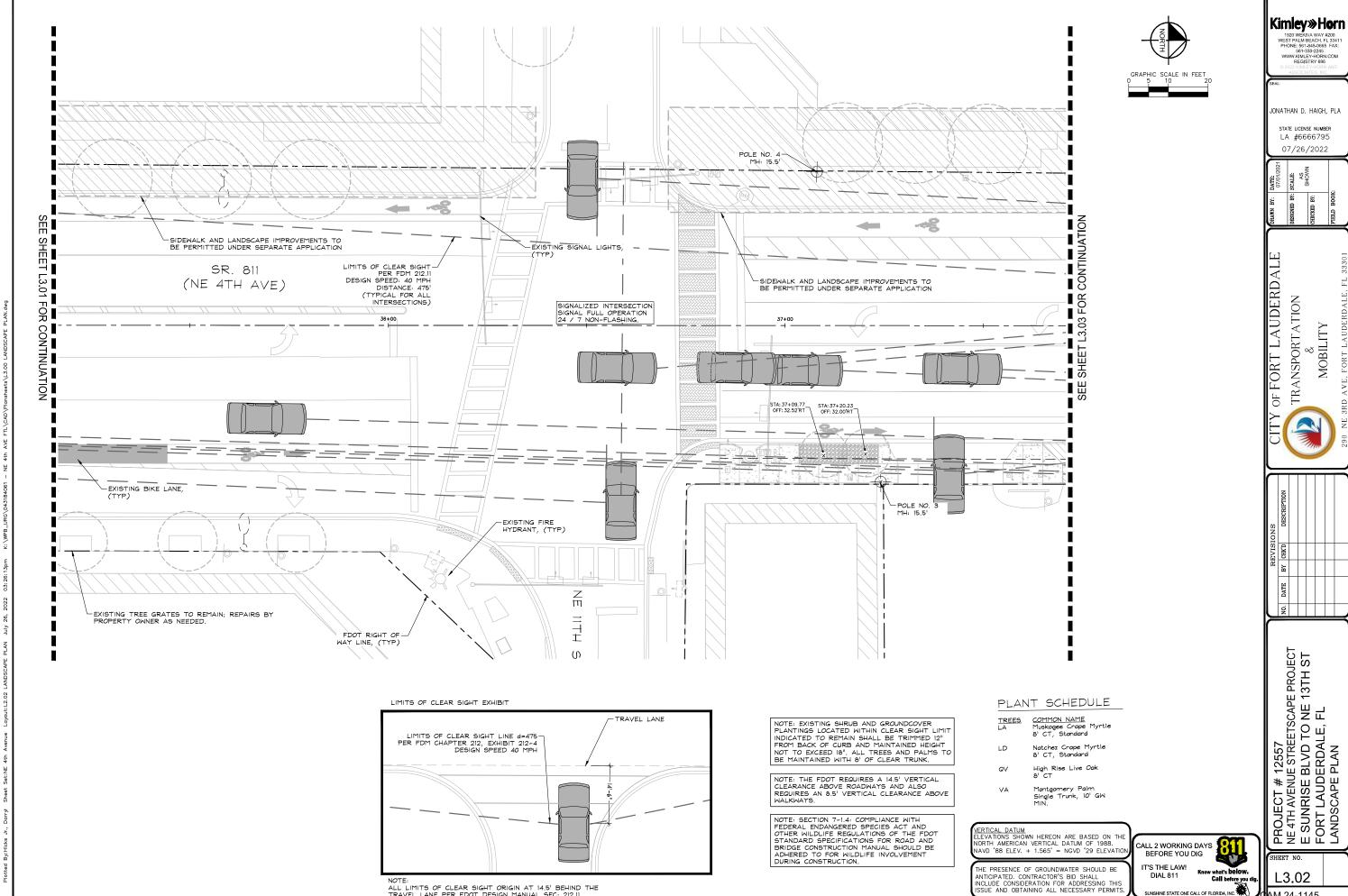


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ALL LIMITS OF CLEAR SIGHT ORIGIN AT 14.5' BEHIND THE TRAVEL LANE PER FOOT DESIGN MANUAL SEC: 212.11

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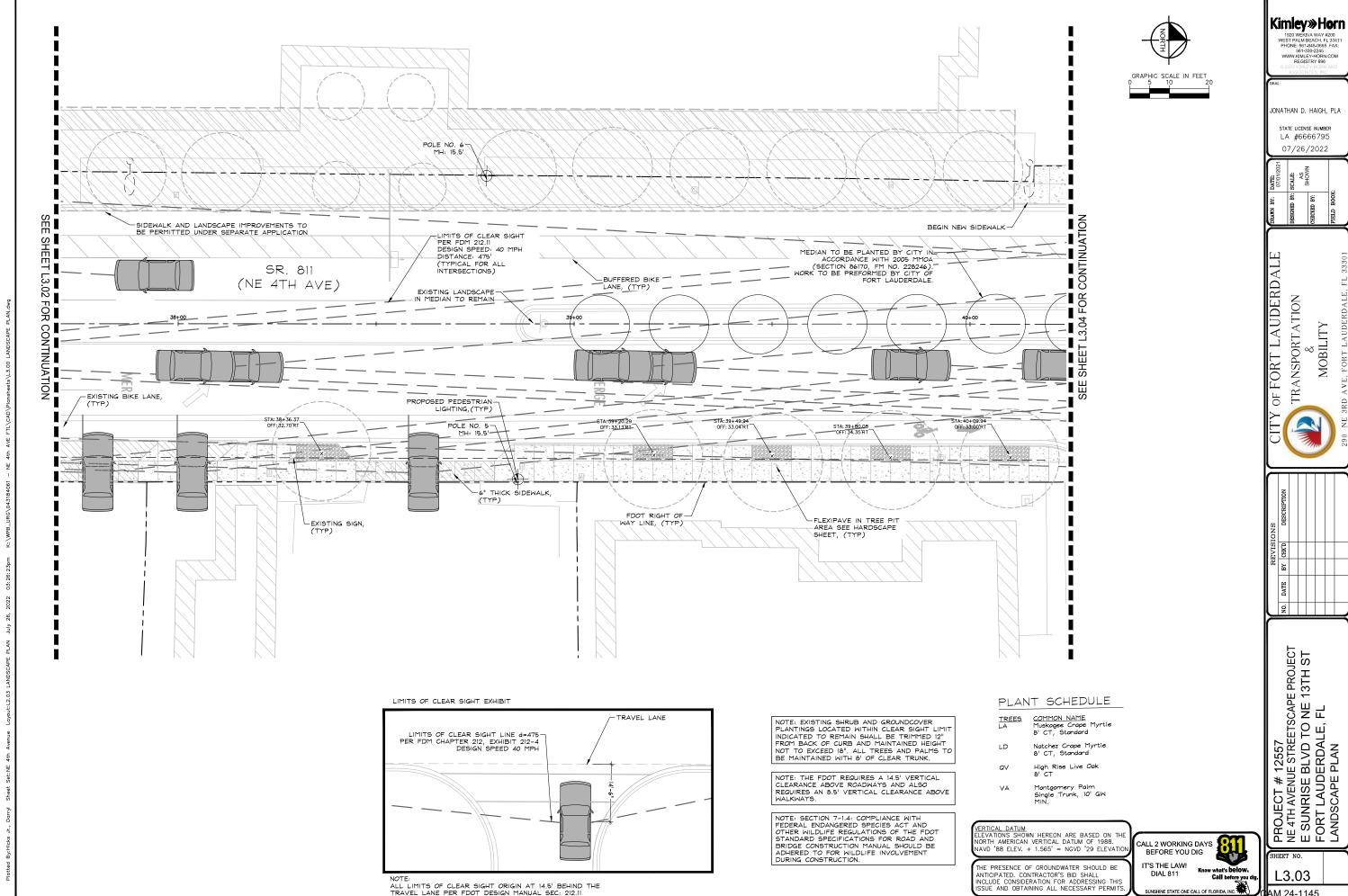


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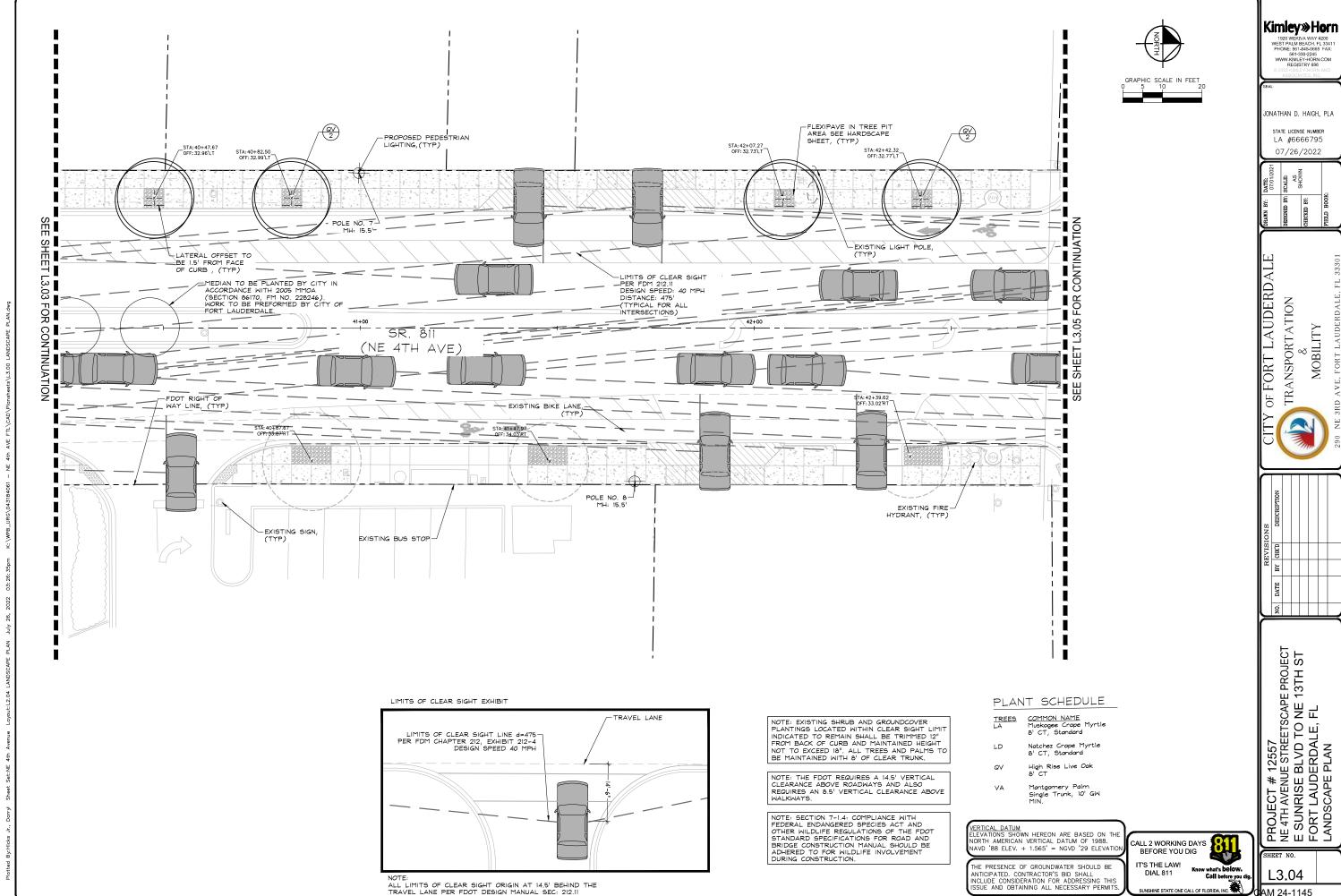
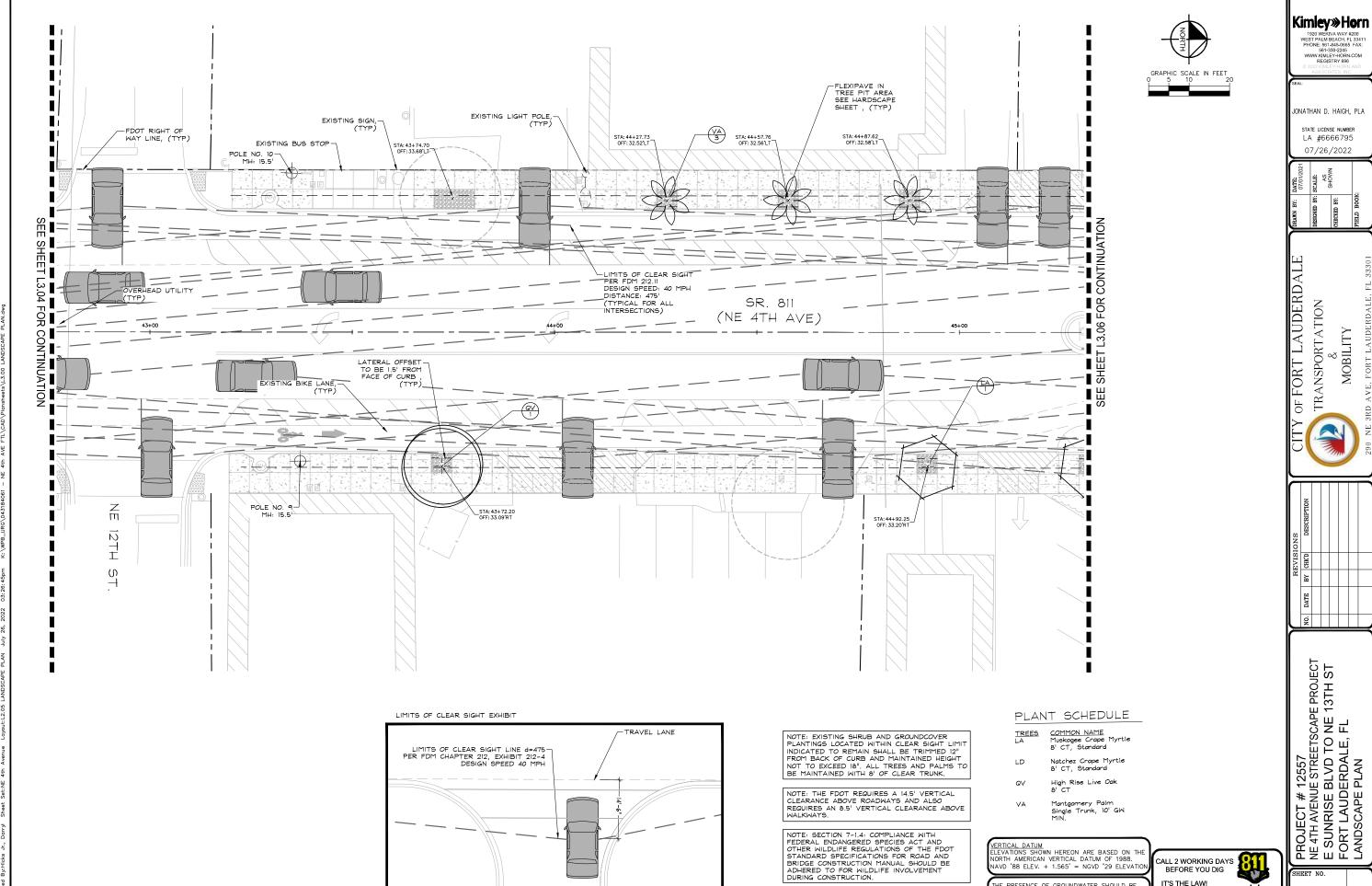


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NOTE: ALL LIMITS OF CLEAR SIGHT ORIGIN AT 14.5' BEHIND THE TRAVEL LANE PER FDOT DESIGN MANUAL SEC: 212.11

Exhibit 1

JONATHAN D. HAIGH, PLA

LA #6666795

PROJECT # 12557

NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
LANDSCAPE PLAN

SHEET NO.

IT'S THE LAW!

DIAL 811

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS

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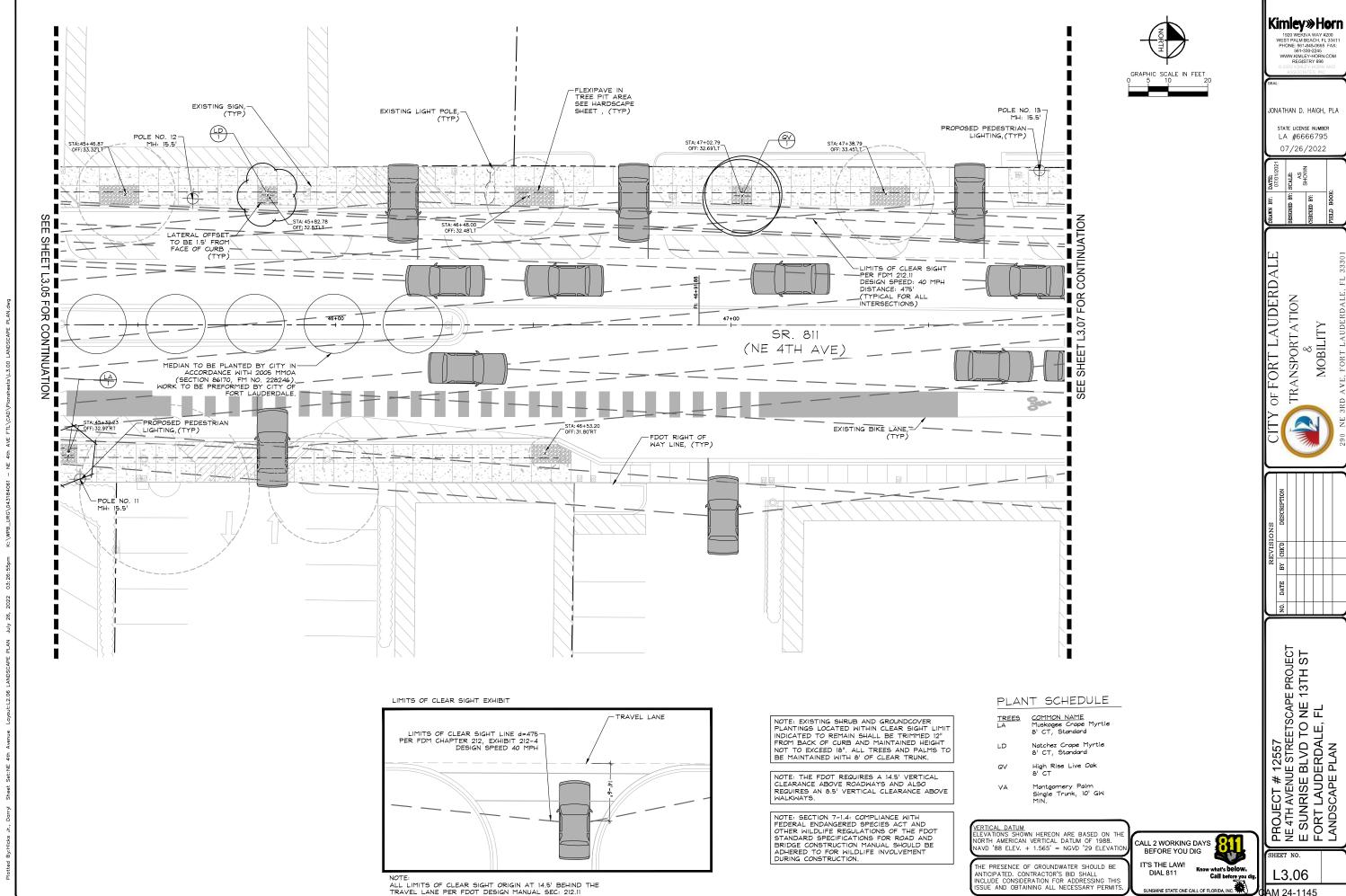


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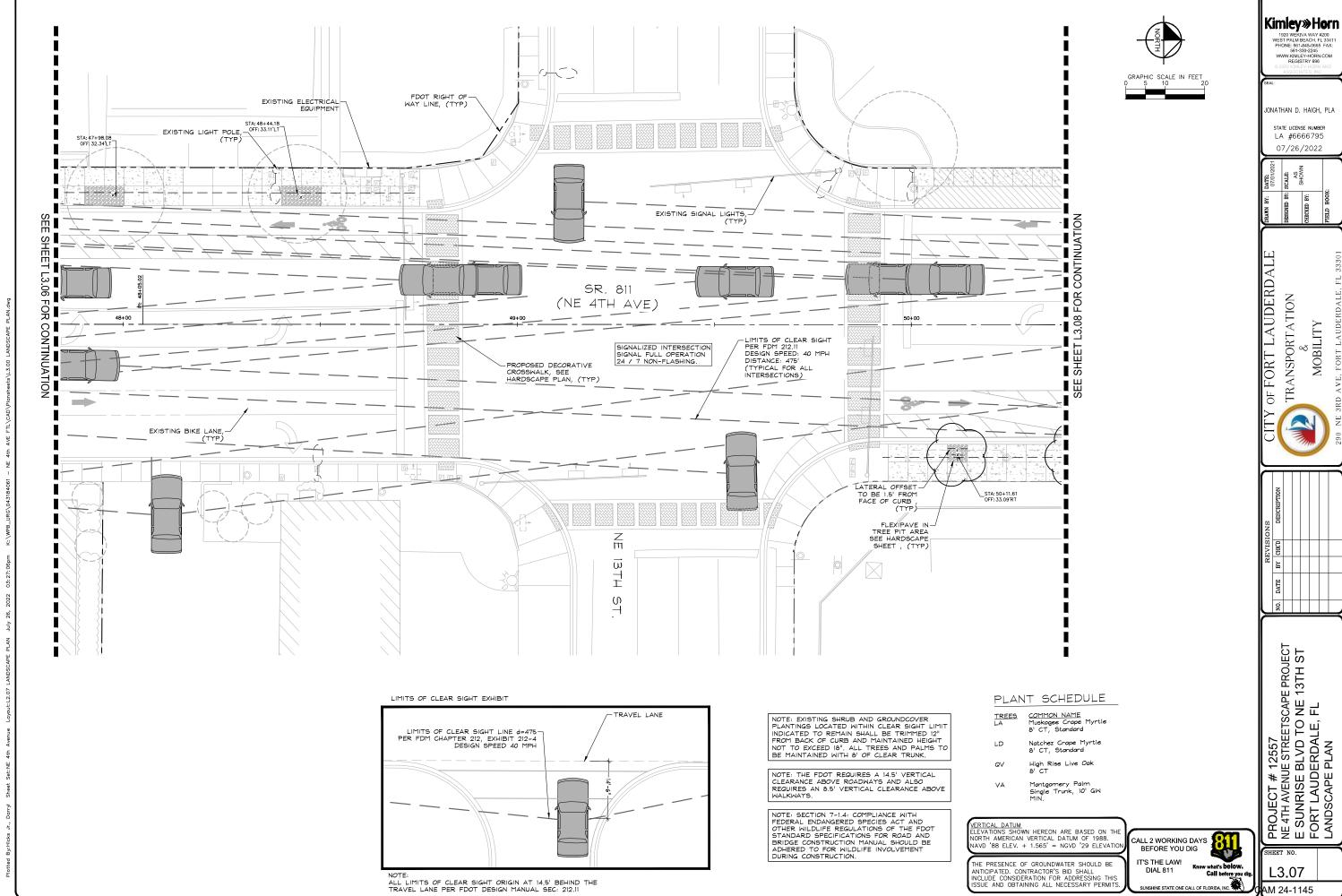
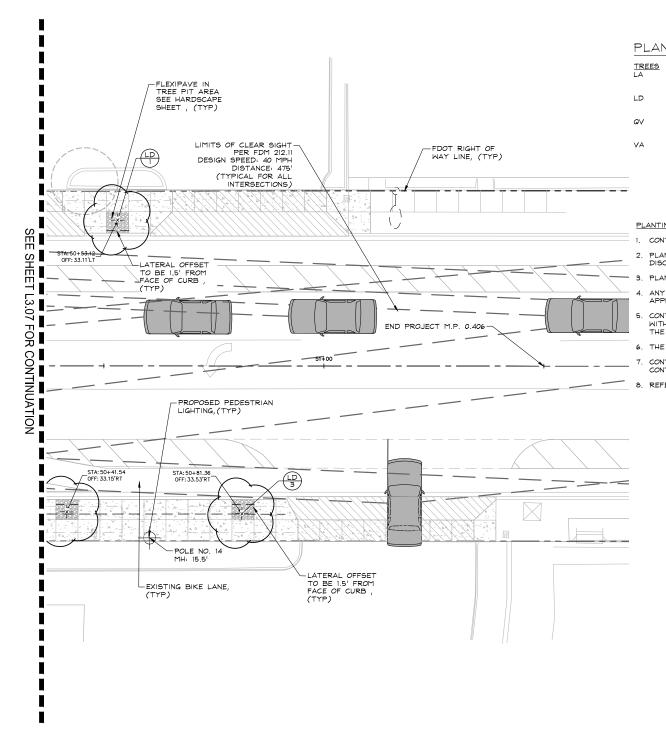


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### PLANT SCHEDULE

TREES LA	BOTANICAL NAME Lagerstroemia 'Muskogee' 8' CT, Standard	COMMON NAME Muskagee Crape Myrtle	CONT Cont.	<u>CAL</u> 4" Cal.	<u>SIZE</u> 18' HT x 7' SPR	QTY 2
LD	Lagerstroemia 'Natchez' 8' CT, Standard	Natchez Crape Myrtle	Cont.	4" Cal.	18' HT x 7' SPR	5
QV	Quercus virginiana 'Hight Rise' 8' CT	High Rise Live Oak	B # B / CONT.	8" Cal.	22' HT x 10' SPR	6
VA	Veitchia arecina Single Trunk, 10' GW MIN.	Montgomery Palm	F.G.		18' GW	3

#### PLANTING NOTES

- I. CONTRACTOR SHALL REFER TO THE FDOT NOTES ON SHEET CO.01 AND ALL CONTRACT DOCUMENTS FOR FURTHER AND COMPLETE INSTRUCTIONS.
- PLANT LIST QUANTITIES ARE PROVIDED FOR CONVENIENCE. IN THE EVENT OF QUANTITY DISCREPANCIES THE DRAWING SHALL TAKE PRECEDENCE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BIDDING.
- 3. PLANT SIZES LISTED ARE THE MINIMUM SIZE THAT WILL BE ACCEPTED FOR THAT PLANT.
- 4. ANY SUBSTITUTION IN SIZE AND/OR PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING. ALL PLANTS WILL BE SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE BEFORE PLANTING CAN BEGIN.
- CONTRACTOR SHALL FIELD ADJUST LOCATION OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR INTERFERE WITH EXISTING ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
- THE CONTRACTOR SHALL BEAR ALL COSTS OF TESTING OF SOILS, AMENDMENTS, ETC. ASSOCIATED WITH THE WORK AND INCLUDED IN THE SPECIFICATIONS.
- CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH THE LIMITS OF WORK AND EXISTING CONDITIONS AND VERIFY ALL INFORMATION. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING WITHIN SEVEN CALENDAR DAYS OF NOTICE TO PROCEED.
- 8. REFER TO DETAIL 1/L2.08 FOR TREE INSTALLATION, AS WELL AS UNDERGROUND BRACING PER FDOT INDEX 580-001

NOTE: EXISTING SHRUB AND GROUNDCOVER PLANTINGS LOCATED WITHIN CLEAR SIGHT LIMIT INDICATED TO REMAIN SHALL BE TRIMMED 12" FROM BACK OF CURB AND MAINTAINED HEIGHT NOT TO EXCEED 18". ALL TREES AND PALMS TO BE MAINTAINED WITH 8' OF CLEAR TRUNK.

NOTE: THE FDOT REQUIRES A 14.5' VERTICAL CLEARANCE ABOVE ROADWAYS AND ALSO REQUIRES AN 8.5' VERTICAL CLEARANCE ABOVE

NOTE: SECTION 7-1.4: COMPLIANCE WITH FEDERAL ENDANGERED SPECIES ACT AND OTHER WILDLIFE REGULATIONS OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION MANUAL SHOULD BE ADHERED TO FOR WILDLIFE INVOLVEMENT DURING CONSTRUCTION.

ERTICAL DATUM LEVATIONS SHOWN HEREON ARE BASED ON 1 NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD '88 ELEV. + 1.565' = NGVD '29 ELEVATION

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS CALL 2 WORKING DAYS BEFORE YOU DIG DIAL 811

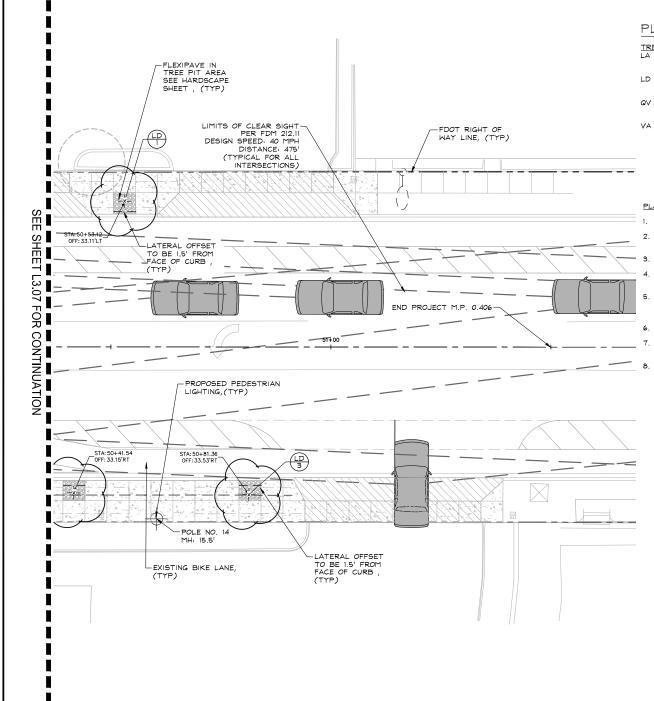
Know what's **below.** Call befo<u>re</u> you

PROJECT # 12557

NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
LANDSCAPE PLAN SHEET NO.

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TRAVEL LANE

LIMITS OF CLEAR SIGHT LINE d=475-PER FDM CHAPTER 212, EXHIBIT 212-4 DESIGN SPEED 40 MPH

NOTE: ALL LIMITS OF CLEAR SIGHT ORIGIN AT 14.5' BEHIND THE TRAVEL LANE PER FDOT DESIGN MANUAL SEC: 212.11

LIMITS OF CLEAR SIGHT EXHIBIT

(**秦**)

Exhibit 1

Kimley»Horn

JONATHAN D. HAIGH, PLA

LA #6666795

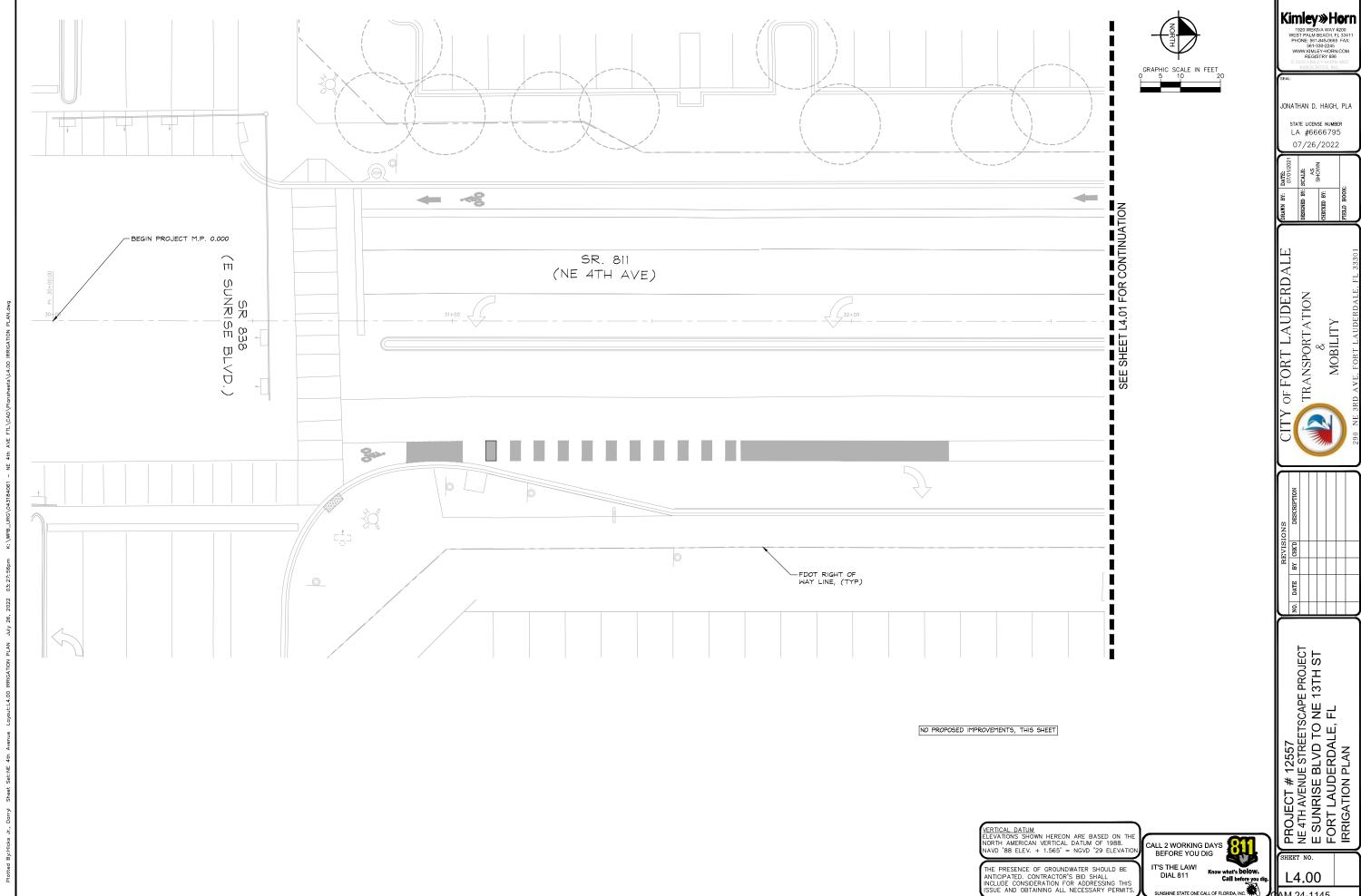
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FOR

OF

TRANSPORTATION



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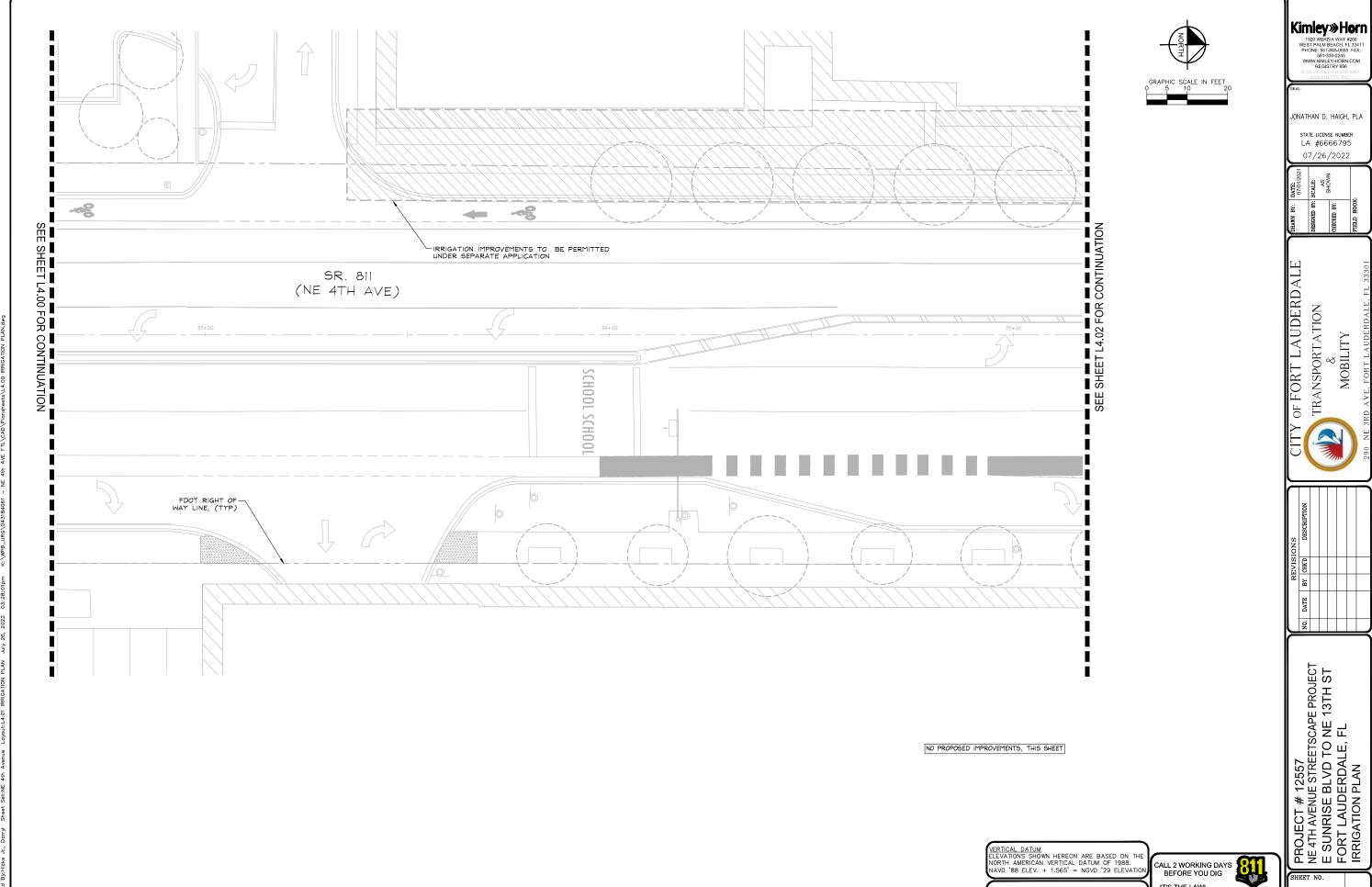


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LA #6666795

PROJECT # 12557

NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
IRRIGATION PLAN

IT'S THE LAW! DIAL 811

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS

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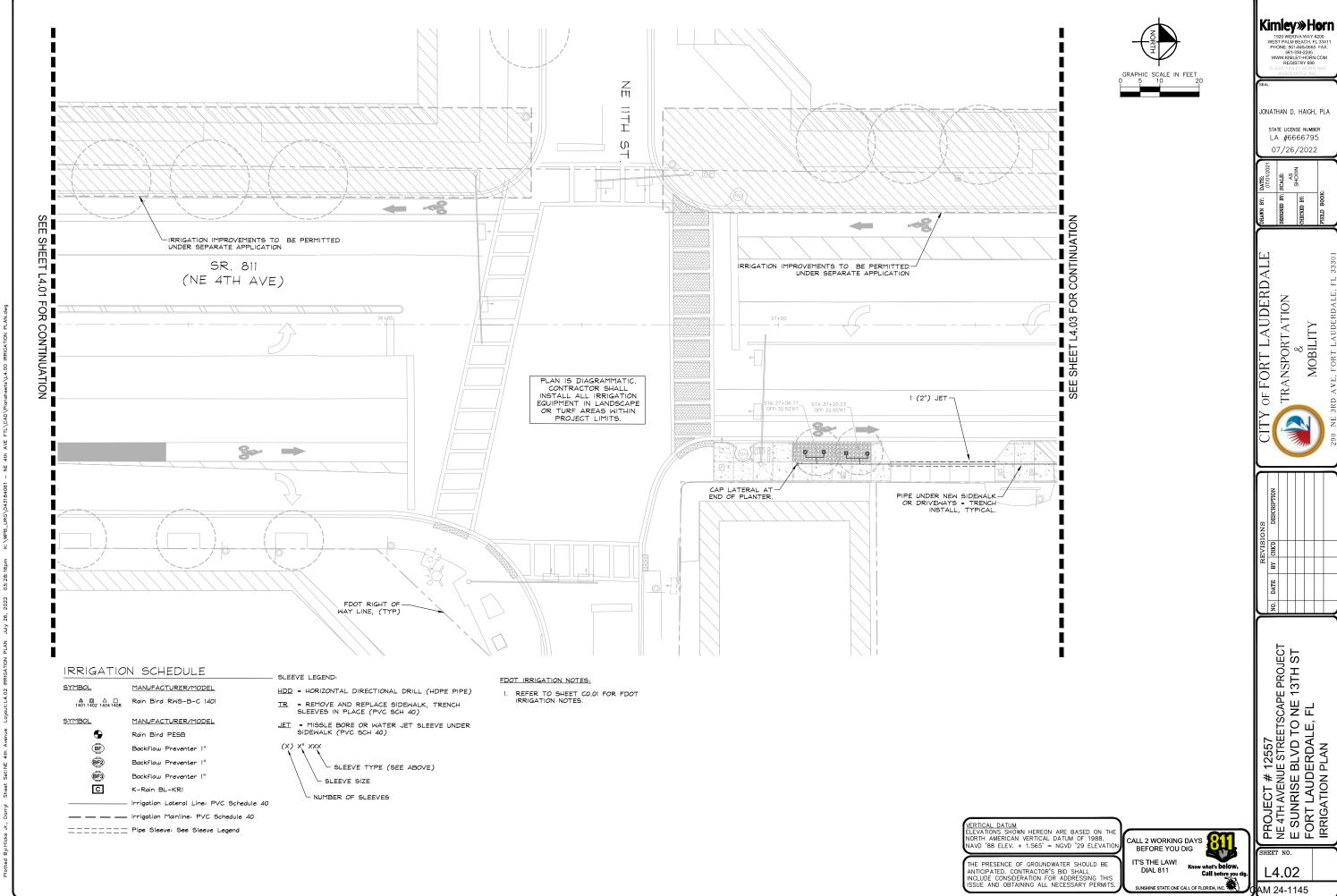
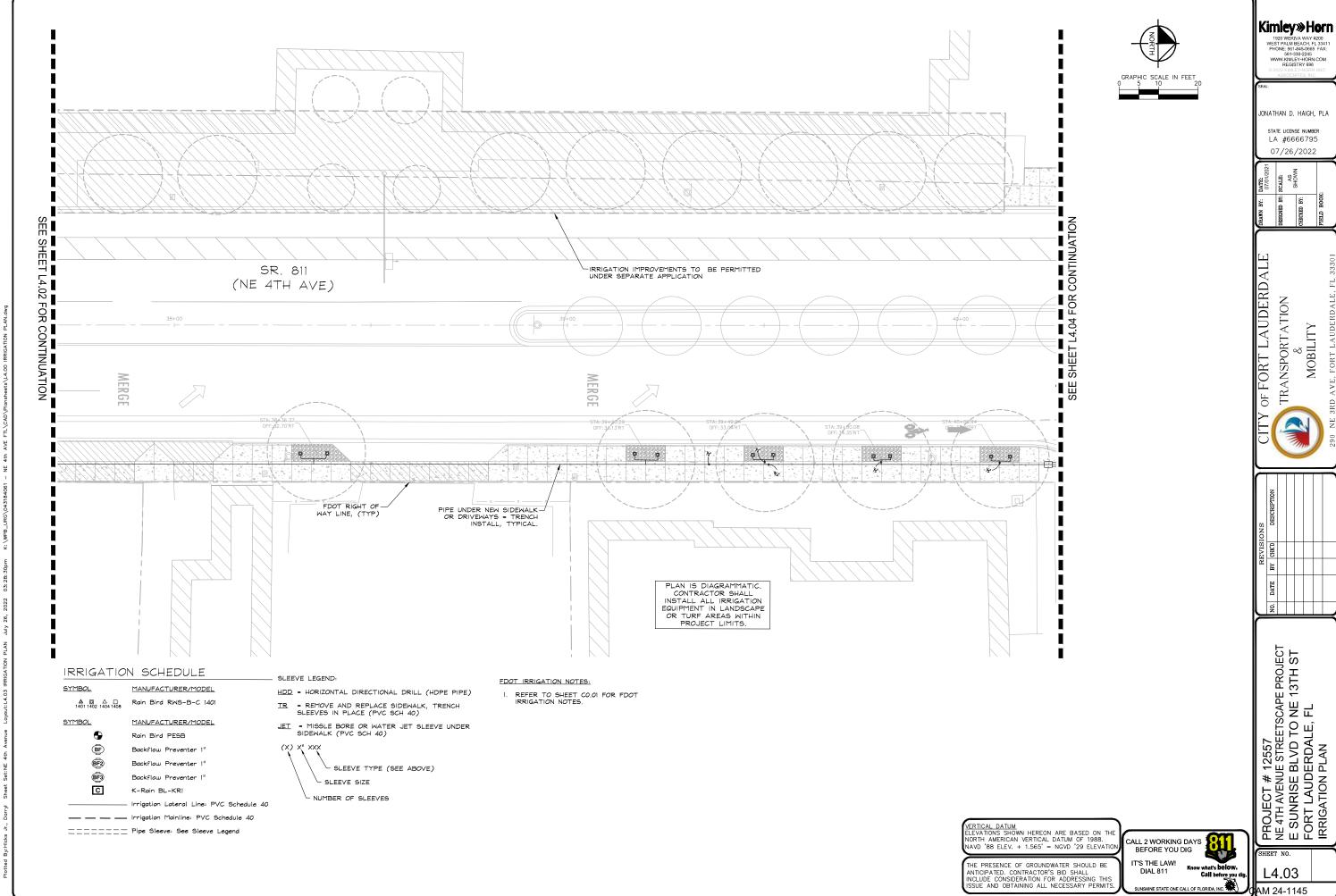
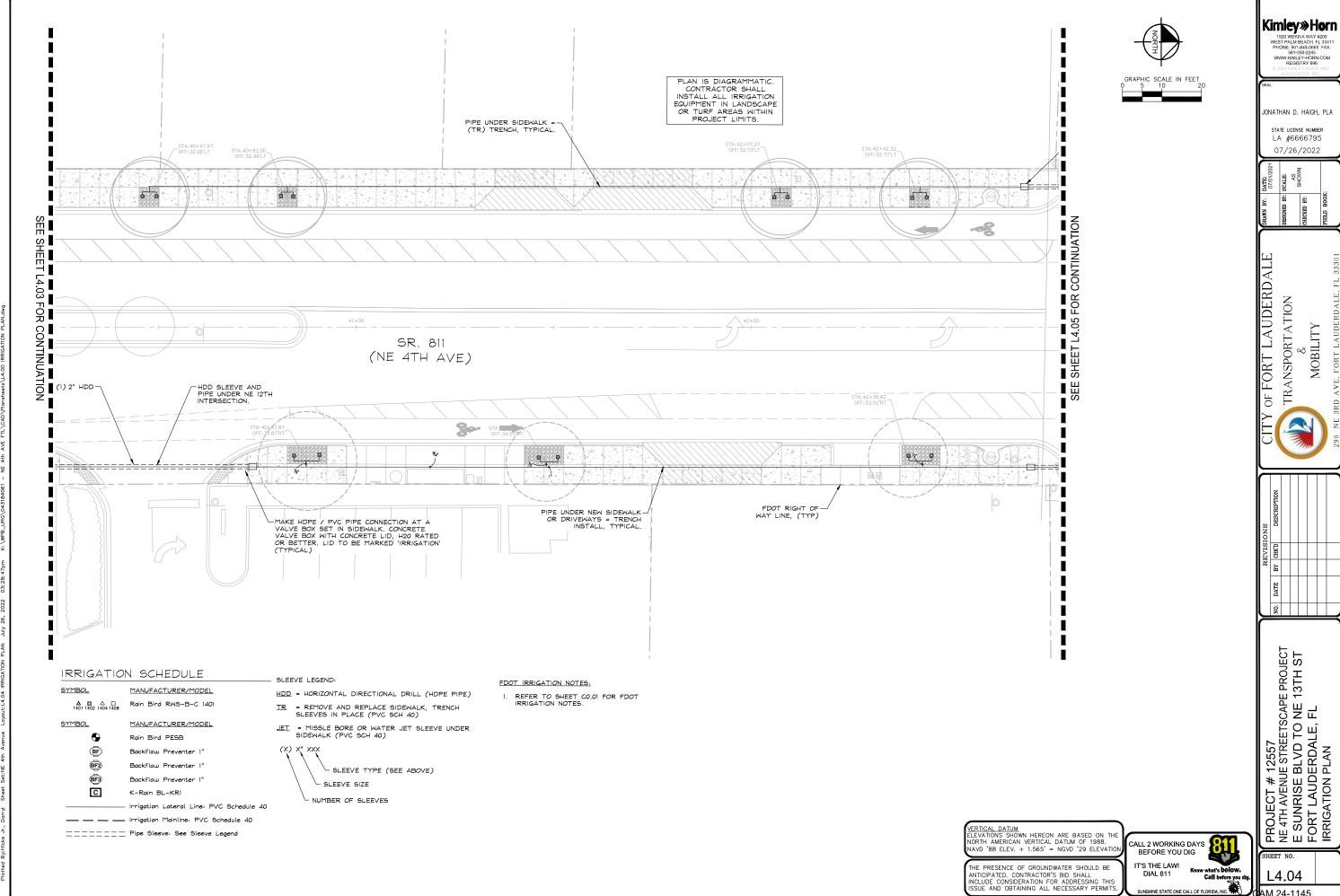


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Exhibit 1



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Exhibit 1

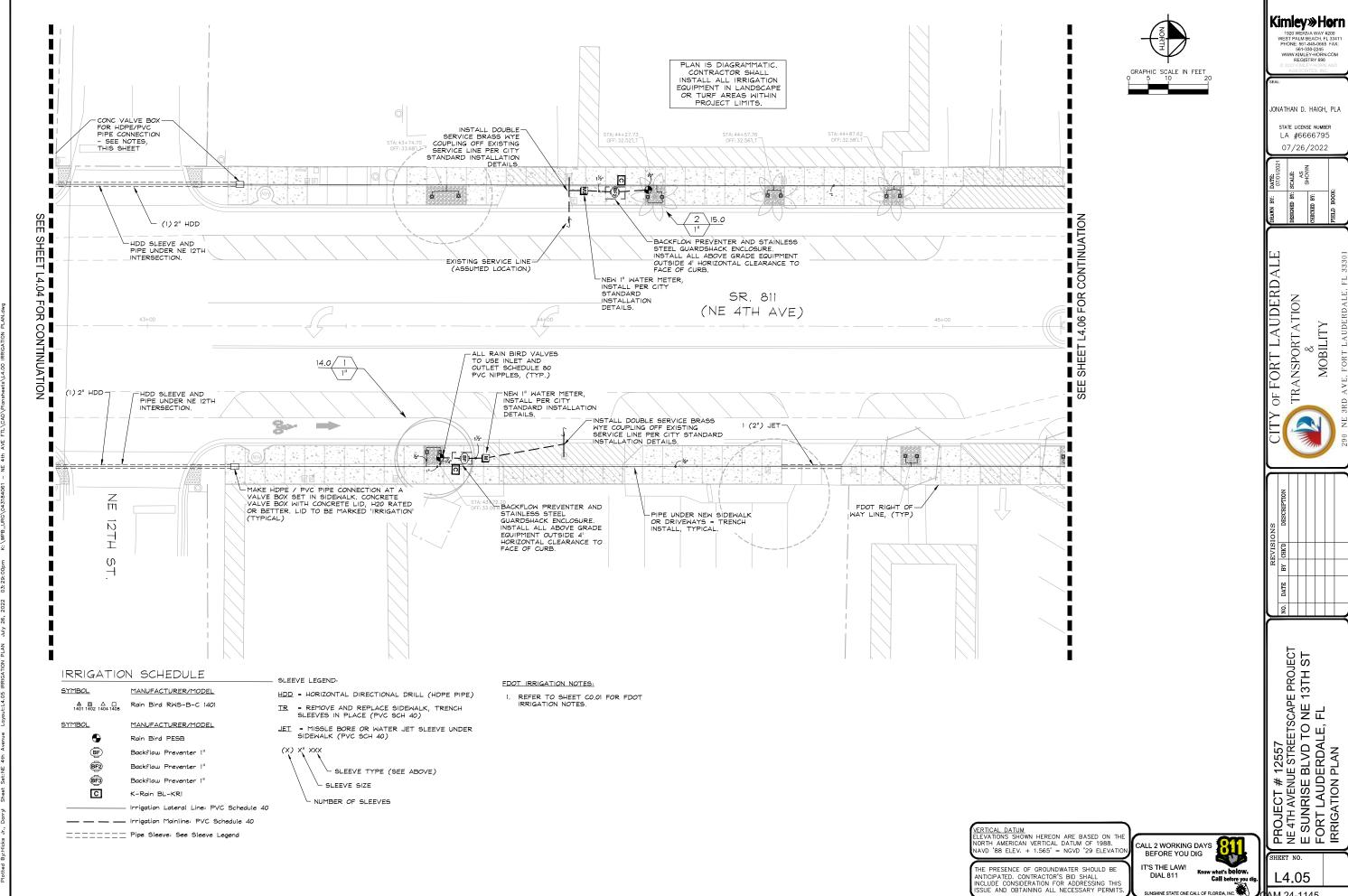
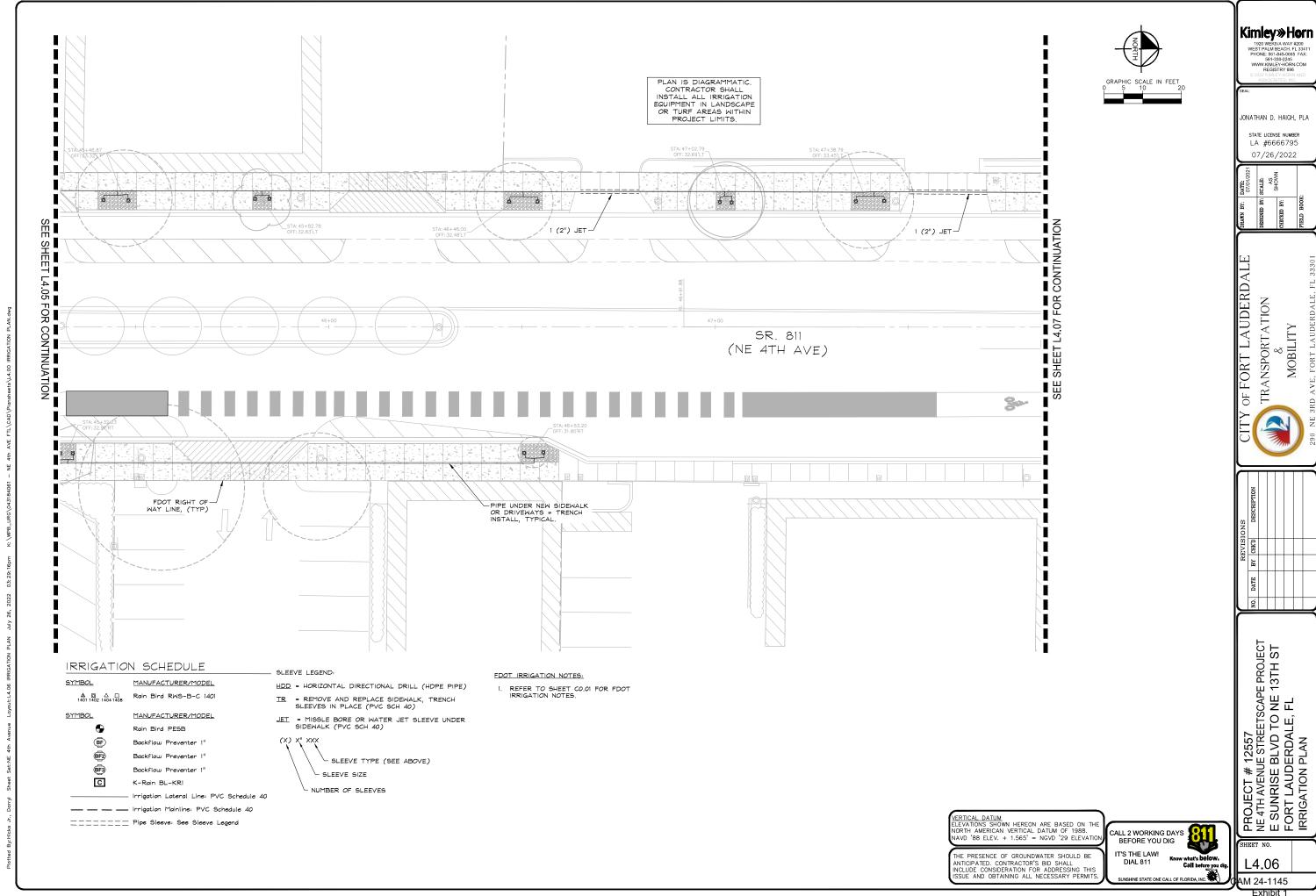
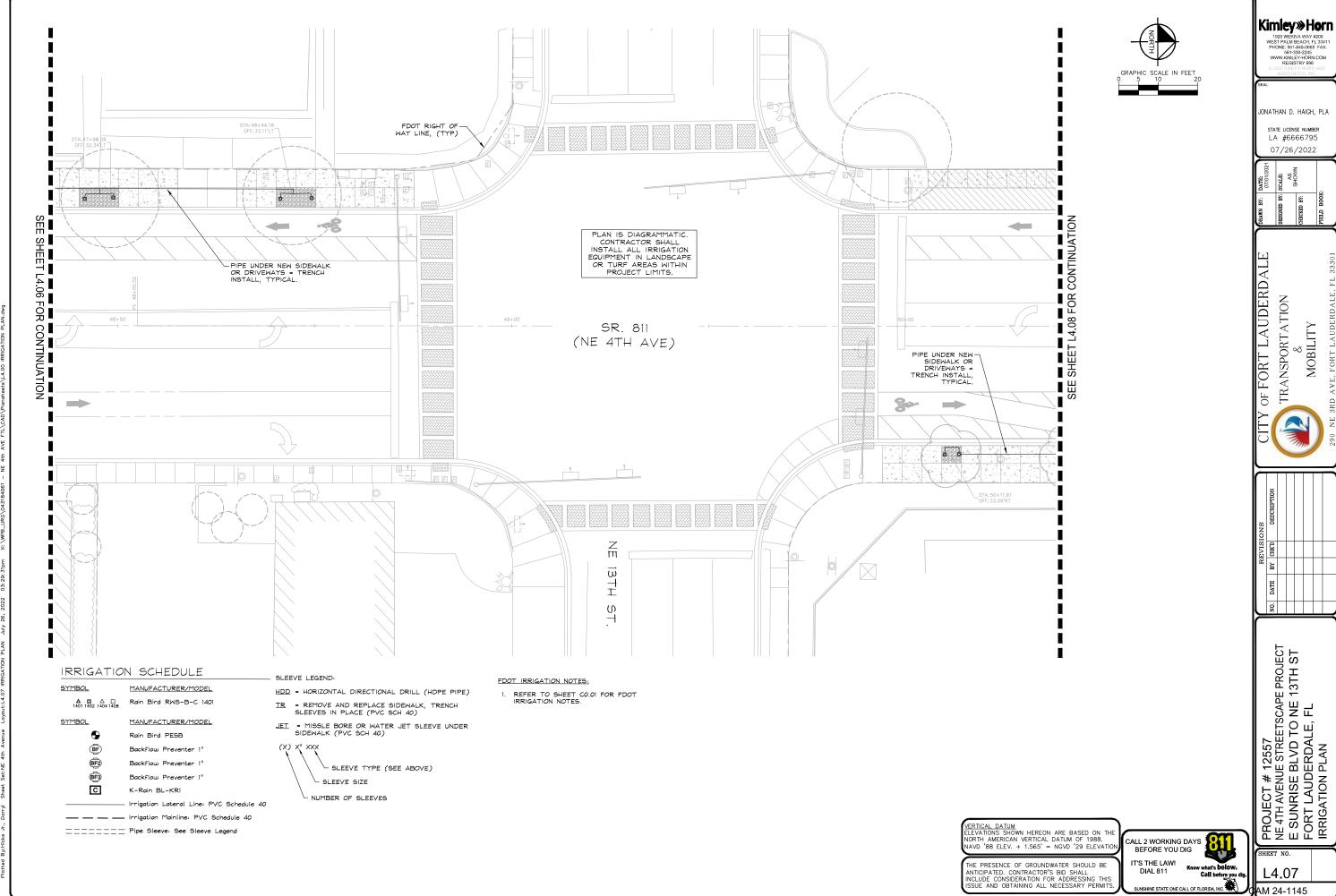


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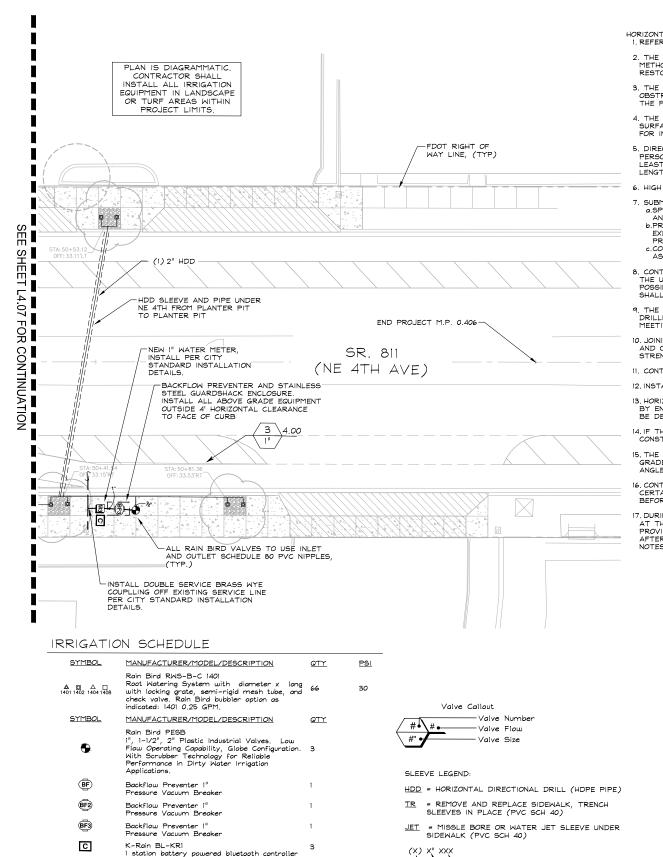


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Exhibit 1



± 2,164 l.f.

± 91.9 1.f.

AS NEEDED

PROPOSED I" METER

PROPOSED I" METER

Water Meter 1" PROPOSED 1" METER

- - Irrigation Mainline: PVC Schedule 40

\_\_\_\_\_ Pipe Sleeve: PVC Schedule 40

Irrigation Lateral Line: PVC Schedule 40

М2

HORIZONTAL DIRECTIONAL DRILL (HDD) 1. REFER TO FDOT SPECIFICATION SECTION 555

- 2. THE WORK CONSISTS OF FURNISHING AND INSTALLING UNDERGROUND IRRIGATION SLEEVING USING THE DIRECTIONAL BORING (HORIZONTAL DIRECTIONAL DRILLING, HDD)
  METHOD OF INSTALLATION. THIS WORK SHALL INCLUDE ALL SERVICES, EQUIPMENT, MATERIALS, AND LABOR FOR THE COMPLETE AND PROPER INSTALLATION, TESTING,
  RESTORATION OF UNDERGROUND UTILITIES AND ENVIRONMENTAL PROTECTION AND RESTORATION.
- 3. THE PROPOSED PLAN INSTALLATION LOCATIONS ARE DIAGRAMMATIC; THE INTENT IS TO ACCOMMODATE THE IRRIGATION DESIGN AND TO AVOID EXISTING UTILITIES AND OBSTRUCTIONS. THE GENERAL HORIZONTAL LOCATION ARE SHOWN ON THE PLANS, BUT THE ENTRY AND EXIT LOCATIONS, AND MINIMUM CLEARANCES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR MAY UTILIZE AN ALTERNATIVE DRILL PATH THAN IS SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
- 4. THE CONTRACTOR SHALL DETERMINE IF A CASING PIPE IS NEEDED TO PREVENT FRAC-OUT OR UPHEAVAL, SETTLEMENT, CRACKING, MOVEMENT, OR DISTORTION OF THE SURFACE MATERIAL FOR ANY PORTION OF THE HDD INSTALLATION. IF THE CONTRACTOR DETERMINES THAT A CASING PIPE IS NEEDED, THEN THE MATERIALS AND LABOR FOR INSTALLING THE STEEL CASING PIPE SHALL BE INCLUDED IN THE BASE BID LINE ITEM UNIT COST FOR THE HDD PIPELINE.
- 5. DIRECTIONAL DRILLING AND PIPE INSTALLATION SHALL BE DONE ONLY BY AN EXPERIENCED CONTRACTOR SPECIALIZING IN DIRECTIONAL DRILLING AND WHOSE KEY PERSONNEL HAVE AT LEAST FIVE (5) YEARS' EXPERIENCE IN THIS WORK, FURTHERMORE, THE CONTRACTOR SHALL HAVE INSTALLED DIRECTIONALLY DRILLED PIPE AT LEAST AS LARGE AS 12 INCHES IN DIAMETER, HAVE PERFORMED CROSSINGS AT LEAST 1,000 FEET IN LENGTH, AND SUCCESSFULLY INSTALLED AT LEAST 50,000 FEET IN
- 6. HIGH DENSITY POLYETHYLENE (HDPE) DRII PIPE SHALL BE USED IN HDD INSTALLATIONS.

- 7. SUBMITTALS:

  a.SPECIFICATIONS ON MATERIAL TO BE USED SHALL BE SUBMITTED TO ENGINEER. MATERIAL SHALL INCLUDE THE PIPE, FITTINGS AND ANY OTHER ITEM WHICH IS TO BE AN INSTALLED COMPONENT OF THE PROJECT.
- A PRIOR TO BEGINNING WORK THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A GENERAL WORK PLAN OUTLINING THE PROCEDURE AND SCHEDULE TO BE USED TO EXECUTE THE PROJECT. PLAN SHOULD DOCUMENT THE THOUGHTFUL PLANNING REQUIRED TO SUCCESSFULLY COMPLETE THE PROJECT, DESCRIBING THE NOISE REDUCTION PROGRAM, SOLIDS CONTROL PLANT, PILOT HOLE DRILLING PROCEDURE, THE REAMING OPERATION, AND THE PULLBACK PROCEDURE.

  C.CONTRACTOR SHALL MAINTAIN A PROJECT LOG OF BORING OPERATIONS AND A GUIDANCE SYSTEM LOG WITH A COPY GIVEN TO ENGINEER AT COMPLETION OF PROJECT. AS-BUILT DRAWINGS SHALL BE CERTIFIED AS TO ACCURACY BY CONTRACTOR.
- 8. CONTACTOR SHALL NOTIFY ALL COMPANIES WITH UNDERGROUND UTILITIES IN THE WORK AREA VIA THE "811" UTILITY LOCATE SERVICE TO OBTAIN UTILITY LOCATES, ONCE THE UTILITIES HAVE BEEN LOCATED CONTRACTOR SHALL PHYSICALLY IDENTIFY THE EXACT LOCATION OF THE UTILITIES BY VACCUUM OR HAND EXCAVATION, WHEN POSSIBLE, IN ORDER TO DETERMINE THE ACTUAL LOCATION AND PATH OF ANY UNDERGROUND UTILITIES WHICH MIGHT BE WITHIN 20 FEET OF THE BORE PATH. CONTRACTOR SHALL NOT COMMENCE BORING OPERATIONS UNTIL THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE WORK AREA HAVE BEEN VERIFIED.
- 9. THE CONTRACTOR IS REQUIRED TO BRING TO THE ATTENTION OF THE ENGINEER ANY KNOWN DESIGN DISCREPANCIES WITH THESE SPECIFICATIONS AND THE ACTUAL DRILLING METHODS THAT THE CONTRACTOR WILL BE PERFORMING. THIS SHALL BE STATED IN WRITING TO THE ENGINEER NO LATER THAN THE PRE\_CONSTRUCTION MEETING.
- 10. JOINING SHALL BE PERFORMED BY THERMAL BUTTFUSION. POLYETHYLENE PIPE LENGTHS TO BE JOINED BY THERMAL BUTT-FUSION SHALL BE OF THE SAME TYPE, GRADE, AND CLASS OF POLYETHYLENE COMPOUND. BUTT-FUSION JOINING SHALL BE 100% EFFICIENT OFFERING A JOINT WELD STRENGTH EQUAL TO OR GREATER THAN THE TENSILE STRENGTH OF THE PIPE.
- 11. CONTRACTOR SHALL INSTALL LATERALS AND/OR MAINLINE WITHIN HDPE HDD SLEEVES PRIOR TO PULLBACK.
- 12. INSTALL TRACER WIRE, PER FDOT SPECIFICATIONS.
- 13. HORIZONTAL DIRECTIONAL DRILLING SHALL CONSIST OF THE DRILLING OF A SMALL DIAMETER PILOT HOLE FROM ONE END OF THE ALIGNMENT TO THE OTHER, FOLLOWED BY ENLARGING THE HOLE DIAMETER FOR THE PIPELINE INSERTION. THE EXACT METHOD AND TECHNIQUES FOR COMPLETING THE DIRECTIONALLY DRILLED INSTALLATION WILL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THESE SPECIFICATIONS.
- 14. IF THE CONTRACTOR DETERMINES THAT A CASING PIPE IS NEEDED ON THE PIPE ENTRY/EXIT SIDE, THEN THE CASING PIPE SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF THE PILOT BORE AND THE PILOT BORE SHALL BE CONSTRUCTED TO ALIGN WITH THE CASING PIPE BELOW THE GROUND SURFACE.
- 15. THE ELEVATION OF THE SLEEVE AND/OR CARRIER PIPE AT THE LOCATION OF THE CONNECTION POINT OF THE DIRECTIONAL BORE SHALL BE 36" BELOW THE NATURAL GRADE AND SHALL BE IN A HORIZONTAL LOCATION FOR EASE OF CONNECTION TO CONTINUING LATERAL OR MAINLINE. SHOULD THIS NOT BE POSSIBLE DUE TO THE ACUTE ANGLE OF THE BORE, THE CONTRACTOR SHALL FURNISH AND INSTALL APPROPRIATE FITTINGS TO PROVIDE FOR A HORIZONTAL CONTINUATION.
- 16. CONTRACTOR MAY DETERMINE THAT A SEPARATE SLEEVE HINDERS INSTALLATION BETWEEN SMALLER HDD RUNS. CONTRACTOR MAY INSTALL HDPE WITHOUT SLEEVE IN CERTAIN AREAS, ONLY IF AGREED UPON BY THE ENGINEER AND CITY. ALL UN-SLEEVED PIPE SHALL BE PRESSURE TESTED AFTER COMPLETION OF THE JOINT FUSING AND BEFORE THE PIPE PULLBACK
- 17. DURING THE DRILLING, REAMING, OR PULLBACK OPERATIONS, THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR HANDLING THE DRILLING FLUIDS, OR CUTTINGS AT THE ENTRY AND EXIT PITS. TO THE EXTENT PRACTICAL, THE CONTRACTOR SHALL MAINTAIN A CLOSED LOOP DRILLING FLUID SYSTEM WHEN THE CONTRACTOR'S PROVISIONS FOR STORAGE OF THE FLUIDS OR CUTTINGS ON SITE ARE EXCEDED, THESE MATERIALS SHALL BE HAULED AWAY TO A SUITABLE LEGAL DISPOSAL SITE.

  AFTER COMPLETION OF THE DIRECTIONAL DRILLING WORK, THE ENTRY AND EXIT PIT LOCATIONS SHALL BE PREPARED FOR LANDSCAPE INSTALLATION PER LANDSCAPE

#### IRRIGATION SYSTEM NOTES

- CONTRACTOR SHALL REFER TO THE IRRIGATION DETAILS, IRRIGATION SCHEDULE, SPECIFICATIONS AND ALL CONTRACT DOCUMENTS FOR
- 2. IRRIGATION QUANTITIES ARE PROVIDED FOR CONVENIENCE, IN THE EVENT OF QUANTITY DISCREPANCIES THE DRAWING SHALL TA PRECEDENCE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BIDDING.
- 3. ANY SUBSTITUTIONS FOR SPECIFIED IRRIGATION EQUIPMENT MUST BE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S
- 4. CONTRACTOR SHALL FIELD ADJUST LOCATION OF IRRIGATION EQUIPMENT AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR INTERFERE WITH EXISTING ABOVE GROUND ELEMENTS, ALL FIELD ADJUSTMENTS SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
- 5. CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH THE LIMITS OF WORK AND EXISTING CONDITIONS AND VERIFY ALL INFORMATION. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING WITHIN SEVEN CALENDAR DAYS OF NOTICE TO
- 6. IRRIGATION PLAN IS DIAGRAMMATIC. EQUIPMENT SHOWN ON IMPERVIOUS SURFACES IS FOR GRAPHIC CLARITY UNLESS OTHERWISE NOTED. CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITHIN LANDSCAPE AREAS IN PROPERTY LIMITS

THE IRRIGATION SYSTEM IS DESIGNED TO OPERATE WITH A SOURCE PROVIDING 17 GPM AT 60 PSI.

BUBBLER DESIGN PRESSURE:

#### VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	<u>PSI</u>	PSI @ POC	PRECIP
1	Rain Bird PESB	1"	Bubbler	14.00	9.1	55.23	59.96	1.82 in/h
2	Rain Bird PESB	1"	Bubbler	15.00	11.3	37.94	42.92	1.88 in/h
3	Rain Bird PESB	1"	Bubbler	4.00	10.9	32.82	35.9	1.98 in/h



#### NOTES:

SLEEVE TYPE (SEE ABOVE)

SLEEVE SIZE

NUMBER OF SLEEVES

1. INSTALL ALL ABOVE GRADE EQUIPMENT OUTSIDE 4' HORIZONTAL CLEARANCE TO FACE OF CURB.

<u>RTICAL DATUM</u> EVATIONS SHOWN HEREON ARE BASED ON T IORTH AMERICAN VERTICAL DATUM OF 1988 NAVD '88 ELEV. + 1.565' = NGVD '29 ELEVATION

THE PRESENCE OF GROUNDWATER SHOULD BE HE PRESENCE OF GROUNDWATER SHOULD BE INTICIPATED. CONTRACTOR'S BID SHALL NCLUDE CONSIDERATION FOR ADDRESSING THIS SSUE AND OBTAINING ALL NECESSARY PERMITS CALL 2 WORKING DAYS BEFORE YOU DIG IT'S THE LAW! **DIAL 811** 

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Kimley»Horn

IONATHAN D. HAIGH, PLA

LA #6666795 07/26/2022

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DERDAL TRANSPORTATION OF

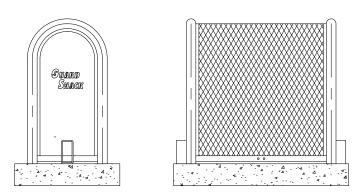
FOR,

EETSCAPE PROJECT TO NE 13TH ST \LE, FL PROJECT # 12557
NE 4TH AVENUE STREE
E SUNRISE BLVD T
FORT LAUDERDAL
IRRIGATION PLAN

SHEET NO. L4.08



#### STANDARD GUARDSHACK™ ENCLOSURES



#### **GUARDSHACK™ GENERAL SPECIFICATIONS**

- All pipe shall be 1 1/4" schedule 40 A.S.T.M. A-53 Grade A-Electric Weld pipe.
- Angle Iron shall be 1" x 1" x 1/8" steel.
- $\bullet$  Stainless steel units shall be 1  $\frac{1}{4}$ " schedule 10 A.S.T. M. A-312 304 S.S.
- Expanded metal shall be ½" spacing x # 13 Ga. flattened diamond pattern steel.
- All stainless steel shall be sandblasted after fabrication to remove burrs, flashing and sharp edges.
- There shall be no exposed ends of expanded metal on the outside of the enclosure.
- Welding shall be a minimum of 1/4" long welds on 4" spacing.
- Standard Lock Shield Brackets shall be welded on each end of lift off enclosures.
- Hardware kits provided for mounting enclosures.
- On 304 S.S. units, all hinges, exposed hardware, and brackets shall be 304 S.S.
- All hardware shall be securely attached to enclosures. See HK-100 for hardware specifications.
- All enclosures shall withstand a minimum of 200 lbs. per square foot without any permanent deflection or distortion.
- 3/8\spacing between angle iron framework of enclosure and slab to prevent rusting. Only pipe ends to touch slab.



② ROOT WATERING SYSTEM: RAIN BIRD RWS

(3) SWING ASSEMBLY (INCLUDED)

(INCLUDED) MALE NPT INLET

⑤ PVC SCH 40 TEE OR EL

6 PVC OR POLYETHYLENE LATERAL PIPE

(8) 4" (10,2 CM) WIDE X 36" (91,4 CM) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)

(9) PLANT ROOT BALL

- IROUN.

  2. INSTALL PRODUCT WITH TOP EVEN WITH FLEXI-PAVE (PER DETAILS L2.08/C).

  3. RWS SERIES AVAILABLE IN THE FOLLOWING MODEL:

3. RMS SERIES AVAILABLE IN THE FULLUMING MODEL:
RMS—B-1402: 0.5 GPM (1,9 L/M)
4. ADD 3/4" (1,9 CM) GRAVEL UNDER THE UNIT, COMPACTED TO PROVIDE SUPPORT TO THE
BOTTOM OF THE UNIT AND AID IN DRAINAGE. 5. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.

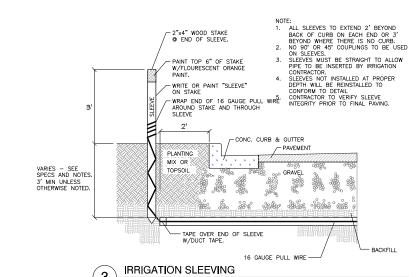
6. INSTALL WITH RWS-SOCK PER EACH UNIT.

# ROOT WATERING SYSTEM RWS

# STAINLESS STEEL ELECTRO-POLISH FINISH

All 304 Stainless Steel units shall be chemically electro-polished to impart a lustrous finish to the

Contractor to provide stainless steel Guardshack sized to fully enclose backflow prevented.



Kimley»Horn

JONATHAN D. HAIGH, PLA

LA #6666795 07/26/2022

T LAUDERDALE TRANSPORTATION OF FOR

PROJECT # 12557

NE 4TH AVENUE STREETSCAPE PROJECT
E SUNRISE BLVD TO NE 13TH ST
FORT LAUDERDALE, FL
IRRIGATION DETAILS

<u>ERTICAL DATUM</u> LEVATIONS SHOWN HEREON ARE BASED ON T NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD '88 ELEV. + 1.565' = NGVD '29 ELEVATION

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS

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SHEET NO. L4.10

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4 GUARDSHACK ENCLOSURE

# PART I: GENERAL

- A. The work covered by this specification shall include the furnishing of all labor, materials, tools and equipment necessary to perform and complete the installation of an automatic irrigation, system as specified herein and as shoun on the drawings and any incidental work not shown or specified which can reasonably be determined to be part of the work and necessary to provide a complete
- B. The work covered by this specification also includes all permits, federal, state and local taxes and all other costs, both foreseeable and unforeseeable at the time of construction.
- C. No deviation from these specifications, the accompanying drawings, or agreement is authorized or shall be made without prior written authorization signed by the Owner or his duly appointed representative.
- A. Installer Qualifications: A firm specializing in irrigation work with not less than five (5) years of experience in installing irrigation systems similar to those required for this project.
- B. Coordination: Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and efficiently as possible.
- C. Inspection of Site: The Contractor shall acquaint himself with all site conditions, including inderground utilities before construction is to begin. Contractor shall coordinate placement of underground materials with contractors previously working underground in the vicinity or those scheduled to do underground work in the vicinity. Contractor is responsible for minor adjustments in the layout of the work to accommodate existing facilities.
- D. Protection of Existing Plants and Site Conditions: The Contractor shall take necessary precautions to protect site conditions to remain. Should damages be incurred, this Contractor shall repair the damage to its original condition at his own expense. Any disruption, destruction, or disturbance of any existing plant, tree, shrub, or turf, or any structure shall be completely restored to the satisfaction of the Owner and his representatives, solely at the Contractor's expense
- E. Protection of Work and Property: The Contractor shall be liable for and shall take the following actions as required with regard to damage to any of the Owner's property.
- 1. Any existing building, equipment, piping, pipe coverings, electrical systems, sewers, sidewalks, roads, grounds, landscaping or structure of any kind (including without limitation, damage from leaks in the piping system being installed or having been installed by Contractor) damaged by the Contractor, or by his agents, employees, or subcontractors, during the course of his work, whether through negligence or otherwise, shall be replaced or repaired by Contractor at his own expense in a manner satisfactory to Owner, which repair or replacement shall be a condition precedent to Owner's obligation to make final payment under the Contract
- Contractor shall also be responsible for damage to any work covered by these specifications before final acceptance of the work. He shall securely cover all openings into the systems and cover all apparatus, equipment and appliances, both before and after being set in place to prevent obstructions on the pipes and the breakage, misuse or disfigurement of the apparatus,
- 3. All trenching or other work under the leaf canopy of any and all trees shall be done by hand or by other methods so that no branches are damaged in any way.

Buildings, walks, walls, and other property shall be protected from damage. Open ditches left exposed shall be flagged and barricaded by the Contractor by approved means. The Contractor shall restore disturbed areas to their original condition.

4. The Contractor shall be responsible for requesting the proper utility company to stake the exact location of any underground lines including but not limited to electric, gas, telephone service water, and cable.

The Contractor shall take whatever precautions are necessary to protect these underground lines all damage shall be completely

- 5. The Contractor shall request the Owner, in writing, to locate any private utilities (i.e. electrical service to outside lighting) before proceeding with any excavation. If, after such requests and necessary staking, private utilities which were not staked are encountered and damaged by the Contractor, they shall be repaired by the Owner at no cost to the Contractor f the Contractor damages staked or located utilities, they shall be repaired at the Contractor's
- F. Codes and Inspections: The entire installation shall comply fully with all local and state laws and ordinances and with all established codes arrange for all necessary inspections and shall pay all fees and expenses in connection with same, as part of the work under this Contract. Upon completion of the work, he shall furnish to the "Owner" all inspection certificates customarily ssued in connection with the class of work involved.
- G. The Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Owner, or Owner's representative.
- H. The superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor
- The Owner's Landscape Architect or designated individual shall have full authority to approve or reject work performed by the Contractor. The Owner's Authorized Representative shall also have full authority to make field changes that are deemed necessary
- J. Final Acceptance: Final acceptance of the work may be obtained from the Owner upon the satisfactory completion of all work. Acceptance by the Landscape Architect and/or Owner way removes the Contractor of his responsibility to make further repairs, corrections and adjustments to eliminate any deficiencies which may later be discovered.
- K. Guarantee: All work shall be avaranteed for one year from date of final acceptance against all defects in material, equipment and workmanship to the satisfaction of the Owner. Repairs, if required, shall be done promptly at no cost to the Owner.
- 1. The guarantee shall also cover repair of damage to any part of the premises resulting from leaks or workmanship, to the satisfaction of the Owner. The Contractor shall not be responsible for work damaged by others. Repairs, if required, shall be done promptly. The guarantee shall state the name of the Owner, provide full guarantee terms, effective and termination date, name and license number of Contractor providing guarantee, address, and telephone number. It shall be signed by the chief executive of the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
- 2. If, within ten (10) days after mailing of written notice by the Owner to the Contractor requesting repairs or replacement resulting from a breach of warranty, the Contractor shall neglect to make or undertake with due diligence to make the same, the Owner may make such repairs at the Contractor's expense; provided, however, that in the case of emergency where, in the judgment of the Owner, delay would cause serious loss or damage, repairs or replacement may be made without notice being sent to the Contractor, and Contractor shall pay the cost

- L. The Contractor shall provide full, 100% irrigation coverage in all areas designed with proposed plantings, in accordance with the site's governing permitting requirements and as designed
- M. On-site Observation: At any time during the installation of the irrigation system by the Contractor, the Owner or Landscape Architect may visit the site to observe work underway. Upon request, the Contractor shall be required to uncover specified work as directed by the Owner or material, workmanship or method of installation not meet the standards specified herein, the Contractor shall replace the work at his own expense.
- N. Workmanship: All work shall be installed by qualified, skilled personnel, proficient in the trades required, in a neat, orderly, and responsible manner with recognized standards of workmanship.

  The Contractor shall have had considerable experience and demonstrated ability in the installation sprinkler irrigation systems of this type.

#### 104 SUBMITTALS

- All materials shall be those specified and/or approved by the Landscape Architect
- A. Product Data: After the award of the Contract and prior to beginning work, the Contractor shall submit for approval by the Owner and Landscape Architect, two copies of the complete list of materials, manufacturer's technical data, and installation instructions which he proposes to
- during actual installation of the system. Provide controller sequencing and control valve locations. C. Record Drawinas: The Contractor shall record on reproducibles, all changes that may be made
- Immediately upon installation of any piping, valves, wiring, sprinklers, etc., in locations other than shown on the original drawings or of sizes other than indicated, the Contractor shall clearly indicate such changes on a set of blueline prints. Records shall be made on a daily basis. All records shall be neat and subject to the approval of the Owner.
- 2. The Contractor shall also indicate on the record prints the location of all wire splices, or due to repair, that are installed underground in a location other than the controller pedestal, remote control valve box, power source or connection to a valve-in-head sprinkler.
- 3 These drawings shall also serve as work progress sheets. The Contractor shall make neat and legible notations thereon doily as the work proceeds, showing the work as actually installed. These drawings shall be available at all times for review and shall be kept in a location designated by the Owner's Representative.
- 4. Progress payment request and record drawing information must be approved by Landscape
- 5. If in the opinion of the Owner or his representative, the record drawing information is not being properly or promptly recorded, construction payment may be stopped until the proper information has been recorded and submitted
- 6. Before the date of the final site observation and approval, the Contractor shall deliver one set (copies) of reproducible record drawing plans and notes to the Landscape Architect. Record drawing information shall be approved by the Landscape Architect prior to submittal to Owner for final payments, including retentions.
- D. Operations and Maintenance Manuals: The Contractor shall prepare and deliver to the Owner, or his designated representative within ten (10) calendar days prior to completion of construction, a hard cover binder with three rings containing the following information:
- 1. Index sheet stating the Contractor's address and business telephone number, list of equipment with name(2) and address(es) of local manufacturer's representative(s)
- 2. Catalog and parts sheets on every material and equipment installed under this Contract.
- 3. Complete operating and maintenance instruction on all major equipment. Include initial controller schedule and recommended schedule after establishment period
- 4. Demonstrate to and provide the Owner's maintenance personnel with instructions for major equipment and show evidence in writing to the Owner, or his designated representative at the conclusion of the project that this service has been rendered.

#### 1.05 EXPLANATION OF DRAWINGS

- A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings and sleeves which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of the work and plan his work accordingly, furnishing such offsets, fittings and sleeves as may be required to meet such conditions
- B. The drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting and architectural features. Deviations shall be brought to the Landscape Architects attention.
- C. All work called for a on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.
- D. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been known in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect. In the event that notification is not performed, the Contractor shall assume full responsibility for any revision necessary
- E. If, in the opinion of the Landscape Architect, the labor furnished by the Contractor is incompetent, unskilled, or unreliable, his equipment inadequate, improper or unsafe, or if the Contractor shall fail to continuously and diligently execute the construction, the Landscape Architect or Owner shall, in writing, instruct the Contractor to remove all such causes of noncompliance and the Contractor shall promptly comply.
- F. The Contractor shall be responsible for full and complete coverage of all irrigation areas. The Landscape Architect shall be notified of any necessary adjustments at no additional cost to the Owner. Any revisions to the irrigation system must be submitted and answered in written form, along with any change in Contract price. Layout may be modified, if necessary to obtain coverage. Spacing not to exceed 60% of the diameter.

#### PART II: PRODUCTS

#### 2.01 MATERIALS

Material and equipment shall be supplied by the Contractor. No substitutions shall be allowed without Material and equipment shall be supplied by the Contractor. No substitutions shall be allowed mithout the prior written approval of the Owner/Landscape Architect. The Contractor shall inspect all materials and equipment prior to installation, and defective materials shall be replaced with the proper materials and equipment. Those items used in the installation found to be defective, improperly installed or not as specified, shall be removed and the proper materials and equipment installed in the proper manner, as interpreted by the Owner/Landscape Architect. The Contractor shall remove all damaged and defective pipe and equipment from the site.

#### 2 02 PIPING

- A. General Provisions: All materials throughout the system shall be new and in perfect condition unless otherwise directed by the Landscape Architect
- B. Polyvinyl Chloride Pipe (PVC): (Where indicated on plan, use non-potable purple piping.)
  - 1. Laterals: PVC shall conform to the requirements of ASTM Designation D 2241, Class 1120 or 1220. All lateral piping less than 3" in diameter shall be Class 200 SDR-21
  - 2. Main Line Under Pressure: PVC shall conform to the requirements of ASTM Designation D 2241, Class 1120 or 1220, Schedule 40 with belled end for solvent weld connection
  - 3. Pipe Markings: All PVC pipe shall bear the following markings
    - Manufacturer's Name Nominal Pipe Size

    - o Schedule of Class
      o Pressure Rating of PSI
      o NSF (National Sanitation Foundation) Approval
      o Date of Extrusion

Joints in PVC pipe smaller than  $3^{\prime\prime}$  shall be solvent welded in accordance with the recommendations of the pipe manufacturer; the solvent cleaner and welding compound furnished

- 2.05 THREADED CONNECTIONS
- A Threaded PVC connections shall be made up using Teflon tape only
- B. Connection between mainline pipe fittings and automatic or manual control valves shall be made using Schedule 80 threaded fittings and nipples.
- 2.06 SOLVENT CEMENT
- A. General: Provide solvent cement and primer for PVC solvent weld pipe and fittings recommended by the manufacturer. Pipe joints for solvent weld pipe to be belled end. Pipe joints for gasketted pipe to be intrical ring type. Insert gaskets will not be accepted.
- B. Thrust Blocks: Main line piping 3" or greater in diameter shall have thrust blocks sized and placed rust Diocks: India line piping 5 or greater in diameter shall have thrivet blocks stage and pix in accordance with the pipe manufacturer's recommendations or, in the absence of specified recommendations by the pipe manufacturer. 3000 PSI concrete thrusts shall be properly installed at tees, elbows, 45's, crosses, reducers, plugs, caps and valves.
- 2.07 PIPE AND WIRE SLEEVES
- A Sleeves to be installed:
  - 1. The Contractor shall install irrigation system pipe and wire sleeves conforming to the following:
    - a. All pipe sleeves shall extend a minimum of 36" beyond the edges of pavement.
    - b. All pipe sleeves to be installed beneath future/existing road surfaces shall be PVC pipe Schedule 40 or jack and bore steel pipe as per FDOT specifications, and as shown on
    - c. All irrigation system wires shall be sleeved seperately from main or lateral lines.
    - d. All pipe sleeves shall be installed at the minimum depth specified for main lines, lateral lines, and electric wire.
  - e. Contractor shall coordinate all pipe sleeve locations and depths prior to initiating installation of the irrigation system.

#### 2.08 SPRINKLER HEADS

A. Spray Sprinklers: The sprinkler shall be a fixed spray type designed for in-ground installation The nozzle shall elevate 6" (or as designated on plan) when in operation. The body of the sprinkler shall be constructed of non-corrosive heavy duty Cycolac. A filter screen shall be in the nozzle piston. All sprinkler parts shall be removable through the tip of the unit by removal

Riser mounted spray shall be as indicated on the plans. The sprinkler shall consist of a nozzle and body. The body of the riser-mount sprinkler shall be constructed of non-corrosive materials. A cone strainer shall be a separate part with the nozzle assembly to allow for easy

> <u>RTICAL DATUM</u> EVATIONS SHOWN HEREON ARE BASED ON T NORTH AMERICAN VERTICAL DATUM OF 1988

NAVD '88 FLEV + 1.565' = NGVD '29 FLEVATION

THE PRESENCE OF GROUNDWATER SHOULD BE NTICIPATED. CONTRACTOR'S BID SHALL
NCLUDE CONSIDERATION FOR ADDRESSING THIS
SSUE AND OBTAINING ALL NECESSARY PERMITS Kimley»Horn

IONATHAN D. HAIGH, PLA

STATE LICENSE NUMBER LA #6666795 07/26/2022

<u>AUDERD</u> TRANSPORT

ST EETSCAPE PROJE TO NE 13TH S LE, FL PROJECT # 12557
NE 4TH AVENUE STREE
E SUNRISE BLVD T
FORT LAUDERDAL
IRRIGATION NOTES

CALL 2 WORKING DAYS BEFORE YOU DIG IT'S THE LAW! DIAL 811

SHEET NO. .**₩**...

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Exhibit Page 55 of 68

- A. Gate valves for 3/4" through 2-1/2" shall be of brass or bronze construction, solid wedge, IPS threads, non-rising stem with wheel operating handle, for a continuous working pressure of 150 PSI.
- B. Gate valves for 3" and larger: Iron body, brass or bronze mounted AWWA gate valves, with a clear waterway equal to the full nominal diameter of the valve, rubber gasket for a continuous working pressure of 150p PSI. Valve shall be equipped with a square operating nut.

#### 2 II VALVE BOXES

- A. For gate valves, use AMETEK #10-181-014 box with #10-181-015 locking lid, or as per the drawings.
- B. For control valves 3/4" through 2", the drip valve assemblies, use AMETEK #10-181-014 box with #10-181-015 locking lid, or sized as necessary to effectively house the equipment
- C. For control wiring splices, use AMETEK #10-181-014 box with #10-181-015 locking lid, or as per the

#### 2.12 IRRIGATION WIRING

- A. Wiring used for connecting the electric control valves to the controllers shall be Type UF, 600 volt. single strand, solid copper with PVC insulation 4/64" thick. Size shall be 14 gauge, red for "hot" or lead wires, and common wire to be 14 gauge, white in color.
- B. Contractor shall perform an ohm test on ground to assure adequate protection against surges and
- 2.13 MISCELLANEOUS MATERIALS
- A. Drainage Backfill: Cleaned gravel or crushed stone, graded from 1" maximum to 3/4" minimum.
- B. Metalized Underground Tape: The detectable, underground utility marking tape shall consist of a talized Underground Tape: The detectable, underground utility marking tape shall consist of a minimum: 5 mil (0.005") overall thickness; five-ply composition; ultra-high molecular weight, 100% virgin polyethylene; acid, alkaline and corrosion resistant; with no less than 150 pounds of tensile break strength per 6" width; color-code impregnated with color stable, lead-free, organic pigments suitable for direct burial. Tapes utilizing reprocessed plastics or resins shall not be acceptable. The detectable, underground utility marking tape shall have a 35 gauge (0.0035") solid aluminum foil, core encapsulated within a 2.55 mil (0.00255") polyethylene backing and a 0.6 mil (0.006") PET cover coating. The laminate on each side shall consist of a 0.75 mil (0.00075") layer of hot LPDE, poly-fusing the "sandwich" without use of adhesives

An Independent Station Controller: Furnish a solid state controller, as specified on the plans Each station shall be capable of timing from zero (0) minute to 99 minutes per station in one

Each station shall be capable of operating two (2) 7VA electric valve-in-head solenoids.

The stand-alone controller shall have two (2) possible programs

The stand-alone controller shall provide global percentage increase/decrease (water budget) for all stations simultaneously, from ten (10) to two hundred (200) percent, in ten (10) percent

All stations shall be able to be turned on/off manually buy operating timing mechanism or by

The stand-alone controller shall incorporate an integral MOV surge protection into the terminal block for each of its 24 VAC field wire outputs. Controller power input wires will also incorporate surge protection.

The control panel shall provide continuous display time. It shall have alphanumeric displays of descriptive English menus and legend identifiers with cursor selection of function and precision value adjustment by rotary dial input.

The stand-alone controller shall be UL listed and FCC approved.

The stand-alone controller shall have 117 VAC, 60 Hz input, 26.5 VAC, 60 Hz output for

The stand-alone controller cabinet shall be a lockable and weather-resistant outdoor cabinet Mount as noted on plans.

The controller shall be equipped with lightening protection, by the Contractor, on both the primary (120v) and each secondary (24v) circuit. The controller circuits shall be grounded to a copper clad grounding rod located at each controller.

The controller shall be equipped for a water conservation device, as specified,

PART III: EXECUTION

#### 3.01 INSPECTION

The Contractor shall examine the areas and conditions under which landscape irrigation system is to be installed and notify the Landscape Architect in uniting of conditions detrimental to the proper and timely completion of the work. The Contractor shall proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Landscape Architect.

The Contractor shall provide sleeves to accommodate piping under walks or paving. The Contractor shall coordinate with other trades and install to accurate levels prior to paving work.

Cutting and patching of paving and concrete will not be permitted. The Contractor shall maintain all warning signs, shoring, barricades, flares and red lanterns, as required by any local codes,

#### 3.03 TRENCHING AND BACKFILLING

A. Excavation: The Contractor shall stake out the location of each run of pipe, sprinkler heads, sprinkler valves and isolation valves prior to trenching. Excavation shall be open vertical construction sufficiently unide to provide free working space around the work installed and to provide ample space or backfilling and tamping. Trenches for pipe shall be cut to required grade lines, and compacted to provide accurate grade and uniform bearing for the full length of the line. The bottom of the trenches shall be free of rock or other sharp edged objects.

Pressure Mainline 18" at top of pipe from Finish Grade Lateral Piping (rotor) 12" at top of pipe from Finish Grade Lateral Piping (pop-up) 12" at top of pipe from Finish Grade Control Wiring Side of main Line

- B. Minimum Clearances: All pipelines shall have a minimum clearance of six inches from each other and from lines of other crafts. Parallel lines shall not be installed directly over one another. No lateral line shall be installed in the main-line trench.
- 3 04 INSTALLATION OF PIPING
- A. PVC Pipe and Joints: The Contractor shall not install solvent wild pipe when air temperature is below 400 F. Installation shall be in accordance with the manufacturer's instructions.
- 1. Only the solvent recommended by the pipe manufacturer shall be used. All PVC pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer, and it shall be the Contractor's full responsibility to make arrangements with the pipe manufacturer for any field assistance that may be necessary. The Contractor shall assume full responsibility for the

#### 3.05 BACKFILLING PROCEDURES

Initial backfill on PVC lines shall be pulverized native soil, free of foreign matter. Within radius of 4" of the pipe shall be clean soil or sand. Plant locations shall take precedence over sprinkler and pipe locations. The Contractor shall coordinate the location of trees and shrubs with the routing of lines and final head locations.

A. Backfill and Compaction: The Contractor shall leave trenches slightly mounded to allow for settlement after the backfilling is completed. The Contractor shall clean the site of the work continuously of excess waste materials as the backfilling progresses, and leave in a neat condition. No trenches shall be left open for a period of more than 48 hours. Protect open trenches as required.

The Contractor shall carefully backfill excavated materials approved for backfilling, consisting of earth, loam, sand, and other approved materials, free of rock and debris over  $1^{\rm I}$  in size. Backfill shall be compacted to original density of surrounding soil without dips, sunken areas, or

The Contractor shall conform to DOT requirements for methods and required compaction

The Contractor shall hand place the first 6" of backfill (or to top of pipe) and have it walked on so as to secure the position of the pipe and wire.

No wheel rolling will be allowed. The Contractor shall remove rock or debris extracted from backfill materials and dispose of offsite. The Contractor shall fill any voids left in backfill with approved backfill materials.

- B. Existing Lawns: Where trenching is required across existing lawns, uniformly cut strips of sod 6" wider than trench. The Contractor shall remove sod in rolls of suitable size for handling and keep maistened until replanted. The Contractor shall replant sod within 48 hours after remova roll and water generously. The Contractor shall resod any areas not in healthy condition equal to adjoining lawns 10 days after replanting.
- C. Seeded Area: Trenching will be required across existing seeded areas, primarily roadway edging. The Contractor shall conform to the requirements of seeding, Section 02930 for the reseeding
- D. Pavements: Jack and bore or directional bore piping under paving materials as per local regulatory codes. No cutting and patching of pavement will be permitted

- A. Isolation Valves: Shall be sized corresponding to adjacent pipe size. Specified valve boxes shall be installed flush with finish grade in such a manner that surface forces applied to their exposed area will not be transmitted to the piping in which the valve is installed nor any other piping, wiring or other lines in the vicinity of said valves.
- B. Gate Valves: Install where shown, in valve boxes.
- C. Electric Control Valyes: Shall be installed in specified valve boxes. The valve shall have 6" of 3/4" pea gravel installed below the bottom of the valve. If the valve box does not extend to the base of the valve, a valve box extension shall be installed. Electric control valves shall be installed where shown and grouped together where practical. The Contractor shall place no closer than 24" to walk edges, bikeway edges, buildings and walls. The Contractor shall adjust the valve to provide flow rate or rated operating pressure required for each sprinkler circuit.

#### 3.07 CONDUIT AND SLEEVES

A. Conduit and Sleeves for Control Wiring and Main/Lateral Pipe: The Contractor shall provide and install where necessary. Contractor shall coordinate locations of previously installed sleeving with the General Site Contractor.

The Contractor shall coordinate installation of sleeves with work of other disciplines

#### 3 08 CONTROLS

- A. The Contractor shall connect electric control valves to controllers in a clockwise sequence to correspond with station settings beginning with Stations 1, 2, 3, etc. Automatic controllers shall be provided and installed by the Contractor as noted on the drawings. All zones will be labeled
- B. Controllers shall be equipped with lightning protection and grounded to a standard 5/8" copper clad steel ground rod driven a minimum of 8' into the ground and clamped.
- C. The electrical service to the controllers shall be performed by an electrical subcontractor in compliance with NEC requirements

#### 3.09 CONTROL WIRE

- A. Control wiring between the controller and electric valves shall be buried in main line trenches or in separate trenches. Electrical connection at valve will allow for piatail so solenoid can be removed from valve with sufficient slack to allow ends to be pulled 12" above ground for examination and
- B. An expansion loop shall be provided at every valve at 100° o.c. Expansion loop shall be formed by wrapping wire at least eight times around a 3/4" pipe and withdrawing pipe
- C. The wire shall be bundled and taped every ten feet. The wire shall be laid in the trench prior to installing the pipe being careful to install wire beneath and 6" to the side of the main pipe line.
- D. Electrical connections to electric control valves shall be made with Rainbird Pen-Tite or Techdel GT-3-GEL Tite connectors or equal.

Power Connections: Electrical connections to power and signal wires shall be made using 3M 82-A2 power cable splice kits.

#### 3.10 SPRINKLER HEADS

#### A. General Provisions:

- Sprinkler heads shall be installed as designated on the shop drawings. Heads shall be installed on flexible PVC. Top to be flush with finish grade or top of curb.
- 2. Spacing of heads shall not exceed the maximum indicated on the shop drawings (unless directed by the Landscape Architect). In no case shall the spacing exceed the maximum recommended

#### B. Head Types:

- Pop-up- Rotary Sprinkler Heads: Shall be installed on flex joint and be set with top of head flush
  with finish grade. Heads installed at curb shall have 6" to 10" between perimeter of head and
  concrete. Heads placed at edge of pavement having no curb shall be installed 24" from edge of
- 2. Spray Pop-up Sprinkler Heads: Shall be installed on flexible PVC and be set with top of head flush with finished grade. Sprinkler heads placed adjacent to curbs will be installed 9" from concrete. Sprinkler heads placed adjacent to pavement having no curb shall be installed 24" from the edge of pavement

#### 3.11 COMPLETION

A. Flushing: Before sprinkler heads are set, the Contractor shall flush the lines thoroughly to make e there is no foreign matter in the lines

The Contractor shall flush the main lines from dead end fittings for a minimum of five minutes under a full head of pressure.

B. Testina: The Contractor shall notify Landscape Architect and Owner forty-eight (48) hours in

Prior to backfilling of main line fittings, Contractor shall fill the main line piping with water, in the presence of the Owner/Landscape Architect, taking care to purge the air from it by operating all the sprinkler control valves one or more times and/or such ather means as may be necessary. A small, high pressure pump or other means of maintaining a continuous water supply shall be connected to the main line and set so as to maintain 100 PSI in the main line system for two (2) hours without interruption. When this has been accomplished and while the pressure in the system is still 100 PSI, leakage testing shall be performed in accordance with AMNA Standard C-600. Pressure readings shall be noted and make up water usage shall be recorded. Should the rate of make up water usage indicate significant leakage, the source of such leakage shall be found and corrected and the system then retested until the Cuner/Landscape Architect is satisfied that the system is reasonably sound. Lateral line testing shall be conducted during the operating testing of the system by checking visually the ground surface until no leaks in this portion of the system are evident. Leaks shall be repaired or paid for by the Contractor at any time they appear during the warranty period. operating all the sprinkler control valves one or more times and/or such other means as may paid for by the Contractor at any time they appear during the warranty period

C. Adjustment and Coverage of System: Coordinate pressure testing with adjustments and coverage test of system so both may occur at the same time. The Contractor shall balance and adjust the various components of the system so that the overall operation of the system is most efficient. This includes a synchronization of the controllers, adjustments to pressure regulators, pressure relief valves, part circle sprinkler heads, and individual station adjustments on the

- A. The Contractor shall fully warrant the landscape irrigation system for a period of one (1) year after the written final acceptance and will receive a written confirmation from the Landscape Architect that the warranty period is in effect.
- B. During the warranty period, the Contractor will enforce all manufacturer's and supplier's warranties as if made by the Contractor himself. Any malfunctions, deficiencies, breaks, damages, disrepair, or other disorder due to materials, workmanship, or installation by the Contractor and his suppliers shall be immediately and properly corrected to the proper order as directed by the Owner and/or Landscape Architect.
- C. Any damages caused by system malfunction shall be the responsibility of the Contractor who shall make full and immediate restoration for said damages.

RTICAL DATUM EVATIONS SHOWN HEREON ARE BASED ON TH NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD '88 FLEV + 1.565' = NGVD '29 FLEVATIO

THE PRESENCE OF GROUNDWATER SHOULD BE NTICIPATED. CONTRACTOR'S BID SHALL
NCLUDE CONSIDERATION FOR ADDRESSING THIS
SSUE AND OBTAINING ALL NECESSARY PERMITS CALL 2 WORKING DAYS BEFORE YOU DIG IT'S THE LAW! DIAL 811

V .**₩**... Kimley»Horn

IONATHAN D. HAIGH, PLA

STATE LICENSE NUMBER LA #6666795 07/26/2022

<u>'DERD</u>/ TRANSPORT FOR,

EETSCAPE PROJECT TO NE 13TH ST ILE, FL 2557 STRE SLVD RNDAI PROJECT # 125( NE 4TH AVENUE ST E SUNRISE BLV FORT LAUDERD RRIGATION NOTE 

SHEET NO. L4.12

AM 24-1145 Exhibit

Page 56 of 68

PERMIT: 2021-L-491-00011

COUNTY: BROWARD

STATE RD: 811

# **EXHIBIT C**

# MAINTENANCE PLAN FOR LANDSCAPE IMPROVEMENTS

This Exhibit forms an integral part of the LANDSCAPE MAINTENANCE MEMORANDUM OF AGREEMENT between the Florida Department of Transportation and the AGENCY.

Please see attached

PERMIT: 2021-L-491-00011

COUNTY: BROWARD

STATE RD: 811

MAINTENANCE PLAN Landscape Improvements

State Road No(s): SR 811 (NE 4<sup>th</sup> Ave) from E Sunrise Blvd (M.P. 0.000) to

NE 13th St (M.P. 0.406)

Permit or FM No(s): 2021-L-491-00011

RLA of Record: Jonathan D. Haigh, PLA

Maintaining Agency: City of Fort Lauderdale

Date: October 28, 2024

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The purpose of a plan for the Landscape Improvements maintenance practices is to allow the plant material on the project to thrive in a safe and vigorous manner while fulfilling their intended purpose and conserving natural resources. Plantings and all other landscape improvements within FDOT right of way shall be maintained to avoid potential roadway hazards and provide clear visibility, accessibility, clearance, and setbacks as set forth and required in the following Florida Department of Transportation (FDOT) governing standards and specifications: FDOT Standard Plans, FDOT Plans Design Manual and FDOT Standard Specifications for Road and Bridge Construction, as amended by contract documents, and all other requirements set forth by the District 4 Operations Maintenance Engineer.

**Part I** of the Maintenance Plan describes general maintenance requirements and recommendations that are standard for all projects. **Part II** provides recommendations prepared by the Registered Landscape Architect of Record specific to the attached approved plans.

# PART I. GENERAL MAINTENANCE REQUIREMENTS AND RECOMMENDATIONS:

#### WATERING REQUIREMENTS

Watering is a critical concern for not only the maintenance of healthy plant material but also for observing water conservation practices. The amount of water to apply at any one time varies with the weather, drainage conditions and water holding capacity of the soil. For plant materials that have been established, it is imperative that any mandated water restrictions be fully conformed to on FDOT roadways.

Proper watering techniques should provide even and thorough water dispersal to wet the entire root zone, but not saturate the soil or over-spray onto travel lanes.

#### **IRRIGATION SYSTEM**

The Agency shall ensure there are no roadway overspray or irrigation activities during daytime hours (most notably "rush hour" traffic periods). It is imperative the irrigation controller is properly set to run early enough that the watering process will be entirely completed before high traffic periods, while adhering to mandated water restrictions. To ensure water conservation, the Agency shall monitor the system for water leaks and the rain sensors to ensure they are functioning properly so that the system shuts down when there is sufficient rainfall.

# **MULCHING**

Mulch planting beds to prevent weed growth, retain moisture to the plants, protect against soil erosion and nutrient loss, maintain a more uniform soil temperature, and improve the appearance of the

PERMIT: 2021-L-491-00011

COUNTY: BROWARD

STATE RD: 811

planting beds. Do not mound mulch against the trunks of trees, palms, and the base of shrubs to allow air movement which aids in lowering disease susceptibility. Cypress mulch is prohibited on state right of way.

#### INTEGRATED PLANT MANAGEMENT

An assessment of each planting area's soil is recommended to periodically determine the nutrient levels needed to sustain healthy, vigorous plant growth.

Palms, shrubs, trees, and turf areas shall be fertilized in such a manner and frequency to ensure that the plant material remains healthy and vigorously growing. Please be alert to changes in fertilization types per University of Florida, Institute of Food and Agricultural Services (I.F.A.S.) recommendations. Establishment of an integrated pest management program is encouraged to ensure healthy plants, which are free of disease and pests.

## **PRUNING**

All pruning, and the associated safety criteria, shall be performed according to American National Standard Institute (ANSI) A300 standards and shall be supervised by an International Society of Arboriculture (ISA) Certified Arborist. Pruning shall be carried out with the health and natural growth of plant materials in mind, to achieve the FDOT requirements for maintaining clear visibility for motorists, and provide vertical clearance for pedestrian, bicyclist, and truck traffic where applicable. Visibility windows must be maintained free of view obstructions, and all trees and palms must be maintained to prevent potential roadway and pedestrian hazards. All palms are to be kept fruit free. The understory plant materials selected for use within the restricted planting areas (Limits of Clear Sight) are to be mature height in compliance with the *FDM Window Detail*. Vertical clear zones for vegetation heights over roadways and sidewalks must meet the requirements of the *FDOT Maintenance Rating Program* (MRP) standards. See Reference pages. The R.L.A. of Record will provide the specific pruning heights for mature or maintained height and spread of all plant material to achieve the design intent shall be noted in Part II., Specific Project Site Maintenance Requirements and Recommendations.

### STAKING AND GUYING

All staking materials are to be removed after one year or as directed by the RLA of Record.). Any subsequent staking and guying activities by the Agency must adhere to *FDOT Standard Plans* guidelines (See Index 580-001). The Agency shall closely monitor staking and guying attachment materials so that they are securely fastened to avoid potential roadway hazards.

### **TURF MOWING**

All grassed areas are to be mowed and trimmed with sufficient frequency to maintain a deep, healthy root system while providing a neat and clean appearance to the urban landscape. All turf efforts, mowing, curb/sidewalk edging and turf condition, must at a minimum, meet *FDOT Maintenance Rating Program* (MRP).

### LITTER CONTROL

The project site shall remain as litter free as practicable. It is recommended to recycle this litter to avoid unnecessary waste by its reuse. Litter removal efforts must meet *FDOT Maintenance Rating Program* (MRP) standards.

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#### WEEDING/HERBICIDE

All planting areas shall be maintained as weed free as practicable by enlisting integrated pest management practices in areas specified on the plans and maintaining proper mulch levels. Extreme care is recommended when using a chemical herbicide to avoid overspray onto plant materials. It is the applicator's responsibility to restore any damage resulting from overspray to the plantings, per the approved plans.

### PLANT REPLACEMENT

Plant replacement shall be the same species and specification as the approved plan. Move and replace all plant materials that may conflict with utility relocations and service. Only plants graded Florida #1 or better, per the *Florida Department of Agriculture and Consumer Services, Grades and Standards for Nursery Plants* are permitted on FDOT roadways. Should it become necessary to change the species, a permit is required from FDOT for approval by the FDOT District Landscape Architect.

## TREE CELL STRUCTURES

Underground tree cells shall be maintained in such a manner as to prolong the life of the structure and prevent potential safety hazards. If the structures fail or become damaged, they shall be replaced with the same type and specification as the approved plan.

# LANDSCAPE ACCENT LIGHTING

Landscape accent lighting shall be maintained in such a manner as to prolong the life of the lighting fixture and prevent potential safety hazards. If the lighting fixtures and their system become damaged, they shall be replaced with the same type and specification as the approved plan. Landscape lighting shall meet requirements for the sea turtle nesting and hatching.

# HARDSCAPE (SPECIALTY SURFACING)

All tree grates and specialty surfacing (if applicable) shall be maintained in such a manner as to prevent any potential tripping hazards and protect damage to the surfacing and tree grates. Final surface tolerance from grade elevations shall, at a minimum, meet the most current FDOT Maintenance Rating Program Handbook for a sidewalk; ADA accessible sidewalk; and FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on The State Highway System. If the specialty surfacing or tree grates become damaged, they shall be replaced with the same type and specification as the approved plan.

# HARDSCAPE (CONCRETE PAVERS)

All concrete pavers (if applicable) shall be maintained in such a manner as to prevent any potential tripping hazards and protect damage to the pavers. Final surface tolerance from grade elevations shall, at a minimum, meet the most current *Interlocking Concrete Pavement Institute (ICPI)*, *Guide Specifications for Pavers on an Aggregate Base, Section 23 14 13 Interlocking Concrete Pavers*, Part 3.05. If the concrete pavers become damaged, they shall be replaced with the same type and specification as the approved plan.

It shall be the responsibility of the AGENCY to maintain all signs located within a non-standard surfacing area. Such maintenance to be provided by the AGENCY shall include repair and replacement of the sign panel, post, and base.

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# HARDSCAPE (NON-STANDARD TRAVELWAY SURFACING)

It shall be the responsibility of the AGENCY to restore an unacceptable ride condition of the roadway, including asphalt pavement (if applicable), caused, or contributed by the installation or failure of non-standard surfacing, and/or the header curb, on the Department of Transportation right of way within the limits of this Agreement. Pavement restoration areas or "patches" will have a minimum length of 10-ft, measured from the edge of the header curb, and a width to cover full lanes for each lane affected by the restoration.

Pavement restoration will be performed in accordance with the most current edition of the FDOT Standard Specifications for Road and Bridge Construction, and the FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System.

# SITE FURNISHINGS

Site furnishing such as Trash Receptacles, Benches, Bollards and Bicycle Racks shall be maintained in such a manner as to prolong the life of the fixture and prevent potential safety hazards. If the fixtures and their overall function and mounting systems become damaged, they shall be replaced with the same type and specification as the approved plan.

# MAINTENANCE OF TRAFFIC CONTROL

Reference the FDOT website regarding the selection of the proper traffic control requirements to be provided during routine maintenance and / or new installations of this DOT roadway.

# **VEGETATION MANAGEMENT AT OUTDOOR ADVERTISING (ODA)** (IF APPLICABLE)

To avoid conflicts with permitted outdoor advertising, please reference the State of Florida website regarding the vegetation management of outdoor advertising. This website provides a portal to search the FDOT Outdoor Advertising Inventory Management System Database. The database contains an inventory of outdoor advertising structures, permits and other related information maintained by the Department.

Also, reference the *Florida Highway Beautification Program* website link for *Vegetation Management at ODA signs* Florida Statutes and Florida Administrative Code related to vegetation management at outdoor advertising sign, permit applications for vegetation management and determining mitigation value of roadside vegetation.

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# PART II. SPECIFIC PROJECT SITE MAINTENANCE REQUIREMENTS AND RECOMMENDATIONS

- 1. Design intent is to provide additional tree canopy cover over the sidewalks and provide comfort for pedestrians.
- 2. All trees and palms are intended to be maintained at mature height and spread. Tree Trimming shall be in accordance with the Florida Department of Transportation Maintenance Rating Program Standards. (Refer to Part I Pruning, for clear sight window and vertical clear zone pruning requirements.)
- 3. Remove suckering growth from base and clear trunk areas for single trees quarterly.
- 4. To maintain the intended appearance of all palms, apply the latest palm fertilizer recommended by the University of Florida IFAS Extension per the manufacturer's specifications.
- 5. Do not remove fronds from self-cleaning palms, unless damaged. Palms with persistent fronds shall only have dead fronds removed, do not remove any green fronds. If it is deemed necessary to prune a palm's fronds, no fronds shall be trimmed above 3 o'clock and 9 o'clock on the horizontal plain.
- 6. Evaluate plant material on a quarterly basis for pests, diseases, drought stress or general decline. If required, follow the integrated pest management program established by the Agency to ensure healthy plants.
- 7. Inspect the FlexiPave surfaces (in tree pits) on a quarterly basis for potential unraveling, cracking or other issues in the surface. Provide repairs by following manufacturer's specifications.
- 8. Inspect the irrigation system performance on a quarterly basis to ensure the system is providing 100% coverage, does not have sections of low pressure, heads and valves are clean and clear of debris and any damaged irrigation components (i.e., spray nozzles, spray heads, valve boxes, etc.) are repaired or replaced.

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# REFERENCES (Sept. 2024)

This reference list is provided as a courtesy. The list may not contain the most current websites. The most current references must be accessed for up-to-date information.

# Accessible Sidewalk (ADA)

- Accessible Sidewalks and Street Crossings https://fdotwww.blob.core.windows.net
- Sidewalks and Trails <a href="https://www.fdot.gov/roadway/ada/sidewalksandtrails.shtm">https://www.fdot.gov/roadway/ada/sidewalksandtrails.shtm</a>
- ADA Standards for Accessible Design <a href="https://www.ada.gov/law-and-regs/design-standards/">https://www.ada.gov/law-and-regs/design-standards/</a>

Building Codes & Standards, Florida Department of Community Affairs (DCA), 2017 Florida Building Code, Chapter 11 Florida Accessibility Code for Building Construction Part A <a href="http://www.floridabuilding.org/fbc/workgroups/Accessibility\_Code\_Workgroup/Documentation/CHAPTER">http://www.floridabuilding.org/fbc/workgroups/Accessibility\_Code\_Workgroup/Documentation/CHAPTER</a> 11 w fla specifics.htm

American National Standard Institute, ANSI A300, (Part 1) for Tree Care Operations – Trees, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning), available for purchase <a href="https://webstore.ansi.org">https://webstore.ansi.org</a> / <a href="https://tcimag.tcia.org/training/introducing-the-newly-designed-ansi-a300-tree-care-standards/">https://tcimag.tcia.org/training/introducing-the-newly-designed-ansi-a300-tree-care-standards/</a>

Florida Dept. of Agriculture and Consumer Services, Division of Plant Industry, Florida Grades and Standards for Nursery Plants 2022 <a href="https://sfyl.ifas.ufl.edu/media/sfylifasufledu/hillsborough/docs/pdf/environmentalhort/grades-and-standards-fornursery-plants-2022.pdf">https://sfyl.ifas.ufl.edu/media/sfylifasufledu/hillsborough/docs/pdf/environmentalhort/grades-and-standards-fornursery-plants-2022.pdf</a>

# Florida Exotic Pest Plant Council Invasive Plant Lists

https://www.floridainvasives.org/plant-list/2023-invasive-plant-species/

Florida Irrigation Society <a href="http://www.fisstate.org">http://www.fisstate.org</a>

Florida Power and Light (FPL) - Right Tree, Right Place <a href="http://www.fpl.com/residential/trees/right-tree-right-place.shtml">http://www.fpl.com/residential/trees/right-tree-right-place.shtml</a>

### FLORIDA DEPARTMENT OF TRANSPORTATION,

Maintenance Specifications Workbook <a href="https://www.fdot.gov/programmanagement/maintenance">https://www.fdot.gov/programmanagement/maintenance</a>

Section 580 Landscape Installation <a href="https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/programmanagement/maintenance/fy-2024-25/spm5800000-724-i19425.pdf?sfvrsn=15564aa7\_1</a>

**FDOT Standard Plans** for Design, Construction, Maintenance and Utility Operations on the State Highway System, <u>Standard Plans - FY 2024-25 https://www.fdot.gov/design/standardplans/current</u>

- Index Series 102-600 Traffic Control through Work Zones
   https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2024/idx/102-600.pdf?sfvrsn=3244c6c7\_2
- Index 580-001 Landscape Installation <a href="https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2024/idx/580-001.pdf?sfvrsn=3963729c\_2">https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2024/idx/580-001.pdf?sfvrsn=3963729c\_2</a>
- Index 591-001 Landscape Irrigation Sleeves <a href="https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2024/idx/591-001.pdf?sfvrsn=1ffed4bc">https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2024/idx/591-001.pdf?sfvrsn=1ffed4bc</a>

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**FDOT Design Manual** for Design, Construction, Maintenance and Utility Operations on the State Highway System, https://www.fdot.gov/roadway/fdm/default.shtm

- Chapter 212.11 Clear Sight Triangles <a href="https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2024/2024fdm212intersections.pdf?sfvrsn=428d0a44\_3">https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2024/2024fdm212intersections.pdf?sfvrsn=428d0a44\_3</a>
- Chapter 215.2.3 Clear Zone Criteria and 215.2.4 Lateral Offset, Table 215.2.1 Clear Zone Width, Table 215.2.2 Lateral Offset Criteria (for Trees) <a href="https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2024/2024fdm215roadsidesafety.pdf?sfvrsn=66e0f4a3\_2">https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2024/2024fdm215roadsidesafety.pdf?sfvrsn=66e0f4a3\_2</a>

# **Landscape Architecture Website**

https://www.fdot.gov/roadway/landscape-architecture/landscape-architecture-programs

Maintenance Rating Program Handbook https://www.fdot.gov/maintenance/maintratingprogram.shtm

Outdoor Advertising Database <a href="https://www.fdot.gov/rightofway/OutdoorAdvertising.shtm/new-outdoor-advertising-site">https://www.fdot.gov/rightofway/OutdoorAdvertising.shtm/new-outdoor-advertising-site</a>

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#### **EXHIBIT D**

### PATTERNED PAVEMENT

This Exhibit forms an integral part of the MAINTENANCE MEMORANDUM OF AGREEMENT between the Florida Department of Transportation and the AGENCY.

- (1) Prior to acceptance by the DEPARTMENT, all lanes for each of the stamped asphalt crossings projects shall be tested for friction in accordance with ASTM E 274-06. All costs for friction testing will be the responsibility of the AGENCY. The initial friction resistance shall be at least 35 obtained at 40 mph with a ribbed test tire (FN40R) or equivalent. Failure to achieve this minimum resistance shall require all deficient crosswalk areas to be removed to their full extent (lane-by-lane) and replaced with the same product installed initially. If more than 50% of the lanes in the intersection require replacement, the entire intersection installation may be reconstructed with a different product on the Qualified Products List (QPL). All lanes receiving new installations shall again be friction tested within 60-90 days of their acceptance by the local AGENCY. The initial friction resistance of each new installation shall be at least 35 (FN40R) or equivalent. Failure to achieve this minimum resistance shall require all deficient areas be removed to their full extent (lane-by-lane) and replaced with the same product installed initially. If more than 50% of the lanes in the intersection require replacement, the entire intersection installation may be reconstructed with a different product on the DEPARTMENT'S Qualified Products List (QPL), or replaced with conventional pavement.
- (2) The results of all friction tests and condition surveys shall be sent to the **Operations Engineer** at the local FDOT District Four Operations Center located at Broward Operations, 5548 NW 9<sup>th</sup> Avenue, Ft. Lauderdale, FL 33309 (954) 776-4300, with a cover letter either certifying that the crosswalks comply with the above stated requirements; or what remedial action will be taken to restore the friction and/or integrity of the crosswalk area.
- (3) When remedial action is required in accordance with the above requirements, the local AGENCY at its own expense shall complete all necessary repairs within 90 days of the date the deficiency was identified.
- (4) Should the local AGENCY fail to satisfactorily perform any required remedial work or testing in accordance with this agreement, the DEPARTMENT reserves the right to replace the patterned pavement with conventional pavement and bill the local AGENCY for this cost. No more than two full stamped asphalt pavement depth repairs shall be made to an area without first resurfacing the pavement to its full depth.

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#### **EXHIBIT E**

### PATTERNED PAVEMENT MAINTENANCE

This Exhibit forms an integral part of the MAINTENANCE MEMORANDUM OF AGREEMENT between the Florida Department of Transportation and the AGENCY.

"Maintenance" of all patterned pavement crosswalks in these Agreements shall be defined, as a minimum, to include its frictional characteristics and integrity as follows:

- (1) Within 60 days of project acceptance by the Department, all lanes of each patterned crosswalk shall be evaluated for surface friction. The friction test shall be conducted using either a locked wheel tester in accordance with FM 5-592 (Florida Test Method for Friction Measuring Protocol for Patterned Pavements) or Dynamic Friction Tester in accordance with ASTM E1911. All costs for friction testing are the responsibility of the AGENCY.
- (2) The initial friction resistance shall be at least **35** obtained at 40 mph with a ribbed tire test (FN40R) or equivalent (see FM 5-592). Failure to achieve this minimum resistance shall require all deficient crosswalk areas to be removed to their full extent (land-by-land) and replaced with the same product installed initially. The AGENCY is responsible for all costs associated with the removal and replacement of the crosswalk. If the Department determines that more than 50% of the lanes in the intersection require replacement, the entire intersection installation may be reconstructed with a different product on the Qualified Products List (QPL) or replaced with conventional pavement.
- (3) Approximately **one year** after project acceptance and **every two years** thereafter and for the life of the adjacent pavement, only the outside traffic lane areas of each patterned crosswalk shall be tested for friction resistance in accordance with **ASTM E274** or **ASTME 1911**. Friction resistance shall, at a minimum, have a FN40R value of **30** (or equivalent).
- (4) The results of all friction tests shall be sent to the **Operations Engineer** at the local FDOT District Four Operations Center located at Broward Operations, 5548 NW 9<sup>th</sup> Avenue, Ft. Lauderdale, FL 33309 (954) 776-4300, with a cover letter either certifying, that the crosswalks comply with the minimum friction criteria, or stating what remedial action will be taken to restore the friction.
- (5) Failure to achieve the minimum resistance shall require all lanes of the crosswalk to be friction tested to determine the extent of the deficiency. All deficient areas shall be removed to their full extent (laneby-lane) and replaced with the same product installed initially. If the Department determines that more than 50% of the lanes in the intersection require replacement, the entire intersection installation may be reconstructed with a different product on the QPL, or replaced with conventional pavement.

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- (6) When remedial action is required in accordance with the above requirements, the local agency shall complete all necessary repairs at its own expense within 90 days of the date when the deficiency was identified. No more than two full depth patterned pavement repairs shall be made to an area without first resurfacing the underlying pavement to 1" minimum depth.
- (7) The Department will not be responsible for replacing the treatment following any construction activities by the Department in the vicinity of the treatment, or any costs for testing.
- (8) Should the local agency fail to satisfactorily perform any required remedial work or testing in accordance with this agreement, the Department reserves the right to replace the patterned pavement with conventional pavement (matching the adjacent pavement) and bill the local agency for this cost.

\*FM 5-592: https://www.fdot.gov/materials/administration/resources/library/publications/fstm/bynumber.shtm

\*\*ASTM E1911: https://www.astm.org/e1911-19.html

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# **EXHIBIT F**

# **RESOLUTION**

This Exhibit forms an integral part of the LANDSCAPE MAINTENANCE MEMORANDUM OF AGREEMENT between the Florida Department of Transportation and the AGENCY.

Please see attached

(To be provided by City)